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MUSEUMS AND MUSEOLOGY :
NEW HORIZONS

Museums And Museology : New Horizons

[Essays in Honour of Dr. Grace Morley
On Her 80th Birthday]

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Awards : Phi Beta Kappa, University of California (Berkeley) (1922); Chevalier, Legion d'Honneur, France (1949); Watumull Foundation Award, India (1962); Honorary Member, ICOM General Conference, USSR (1977).

1927-30 : Instructor, French Literature and Culture; medieval and modern European art, Goucher College, Baltimore.

1930-33 : General Curator, Cincinnati Art Museum, Cincinnati, Ohio.

1934-46 : Director, San Francisco Museum of Art, San Francisco, California.

1946-49 : Head, Museums Division, Unesco, Paris (on leave from San Francisco Museum of Art).

1949-58 : Director, San Francisco Museum of Art, San Francisco, California.

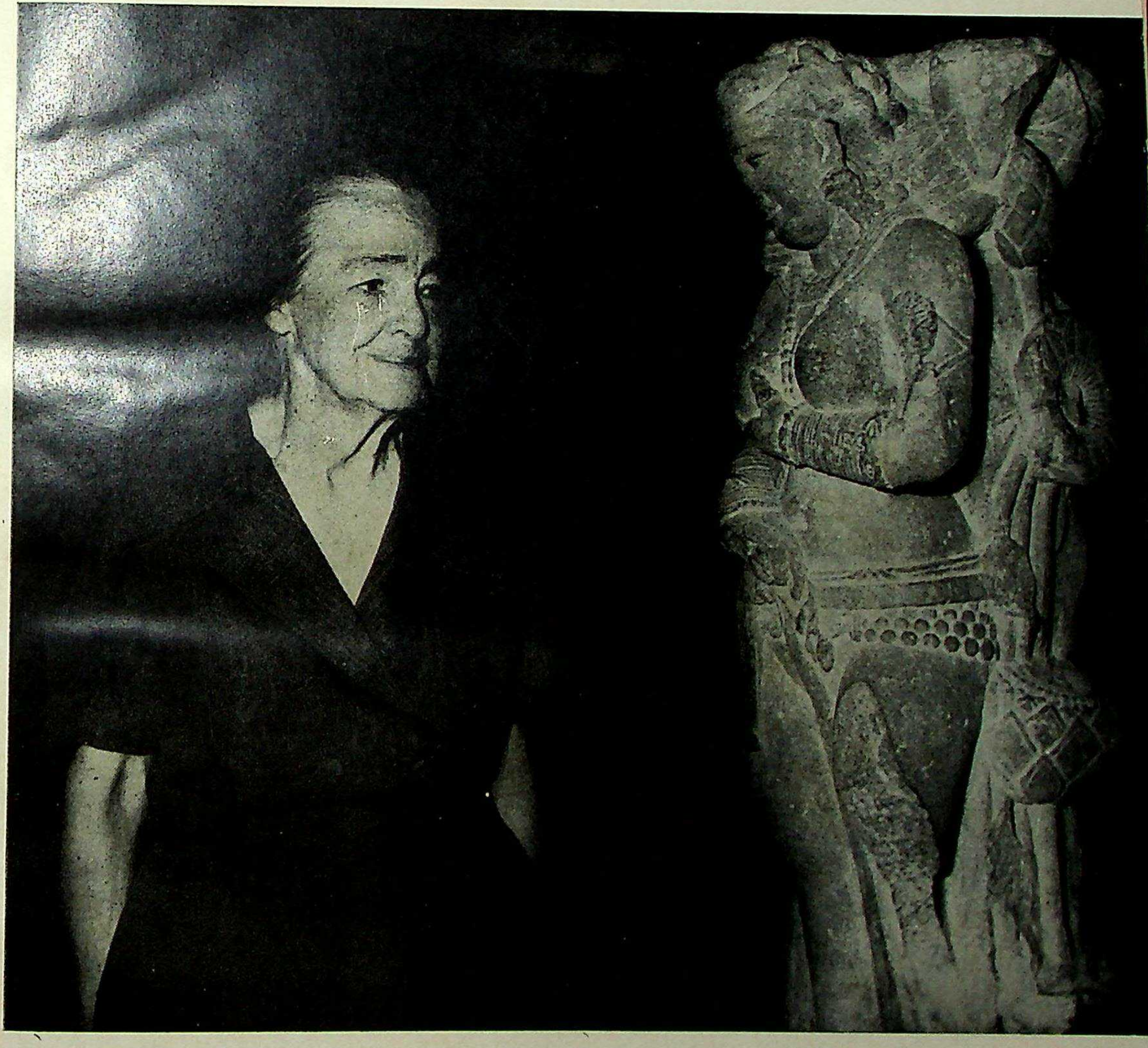
1959 : (On terminal leave from SFMA) Research, organizing exhibitions, writing at New York.

1960-66 : Director, National Museum of India, New Delhi.

1966-68 : Adviser on Museums, Ministry of Education, Government of India.

1967-78 : Founder, Head, ICOM Regional Agency in Asia, New Delhi and Bangkok.

1978 : Permanent Adviser, ICOM Regional Agency in Asia, especially concerned with "special projects", Museum Training and Publications.



PREFACE

The advent of Dr. Grace Morley on the horizon of Indian museums in 1960 heralded a new era. For the past 19 years she has been untiringly serving the cause of museums in India and its neighbourhood. The book *Museums and Museology* : *New Horizons* is a humble token of her associates' and admirers' reverence to her and is dedicated to her on the occasion of her 80th birthday.

Her impact on almost every aspect of museology is well known. But the influence she exercised in the field of 'exhibition techniques' is the foremost. The methods which she introduced at the National Museum were oriented to Indian conditions and were widely followed putting Indian museums on international footings. For instance, the use of hessien or other handwoven rough-textured cloth as background material by her has widely been followed all over India, nay Asia. In Part I of the Book, devoted to this aspect of practical museology, some of her ex-colleagues and friends and some young museologists have tried to suggest ways and means to improve displays.

Those who know Dr. Morley from the days of her Directorship of the National Museum recall her devotion to the minute details, like a true museum person. She balanced her time well and gave equal importance to the administration and documentation and the gallery work. The Part II of the book, devoted to the Administration and Documentation, stresses the need of planning in museums, of proper documentation, including photography, and suggests how best to organise a museum library.

Dr. Morley was the first to realise the importance of proper storage in museums and gave new lease of life to the Central Asian Antiquities by arranging its storage methodically. The work started by her has continued and four of the Museums' storages have beeen discussed in Part III in the sincere hope that these 'case studies' will serve as model to other institutions.

The Part IV of the book deals with 'Educational and Community Services', whose cause has always been very dear to Dr. Morley. In fact, she was responsible for creating a full-fledged department of educational services at the National Museum. Now the role of museum as an educational institution is a well established fact and some museums have made their place in the local society because of their community services. However, in a country like India, where illiteracy is so rampant, museums can play their own role in solving the problem.

How dear the 'Conservation, Preservation and Care of Objects', which have been dealt in Part V of the book; have been to Dr. Morley can well be illustrated by an incident which occured at the time of the exhibition arranged for the International Congress of Orientalists in 1964. One of our collagues was counting the leaves of a manuscript received on loan for the exhibition in the conventional way—by licking his fingers. As soon as she noticed it, she scolded the person and said that besides the fact that he was likely to fall ill, he could have damaged the already tattered manuscript. Then she herself demonstrated as to how to count the leaves of a manuscript gently with the help of both the hands. She also taught the dignity of handling the art objects ourselves and not to leave it to an attendant. How to transport the objects from one part of the museum to another—wrapped in tissue papers and kept in cotton padded trays or on trollies; was also lovingly taught by her.

Dr. Morley's jurisdiction was never confined to the National Museum and she has always been more than willing to help other institutions. Part VI of the book acquaints us with some of the outstanding museums and art objects.

There is hardly any aspect of museology which did not get the golden touch of Dr. Morley. She has been known as "Mataji" (Mother) in the Indian Museum World. She inspired people to write and encouraged them to speak in public and conduct seminars and conferences. The 'Museum Camps' started by her, still remain a very good forum for museum people to exchange ideas. Part VII of the book provides close-ups of different aspects of museums and museology.

In the last part of the book, Part VIII, we get glimpses of Dr. Morley's magnanimity through the pens of such authorities who had the apportunity to work very closely with her. Some of the rare photographs show her with eminent national leaders. The Bibliography of her writings at the end of the book gives a true picture of Dr. Morley's contribution to practically all aspects of museology.

This bunch of articles by persons who had been either associated with her or have been benefited by her wisdom, directly or indirectly, in the form of '*Śraddhā-Suman*', is dedicated to her on the occasion of her 80th birthday with the prayer that she continues to be the guiding spirit of the museums in India and abroad for many more decades to come.

V.P. Dwivedi
G.N. Pant

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PART I

Exhibition & Display

1

ROLE OF MUSEUM EXHIBITION

SMITA J. BAXI

The museums have come a long way from the time when they were merely treasure-houses for the preservation of the art and the cultural heritage of mankind. In addition to the preservation, they have many more responsibilities. The definition of a museum has been continually analysed, revised and substantiated and the list of functions a museum must perform has been growing. But the very basic, the fundamental and the characteristic, activity of the museum remains unchanged and that is of showing or exhibiting its collection. The methods and techniques of museum exhibition have certainly changed in order to meet the demands of public; the polemic issue has been what to show, how to show and how much to show for a particular event and on a particular occassions, but no museum has ever taken a decision of not showing its collection.

There has been no difference of opinion on the point of museum's obligation of acquiring and showing the objects of art, science, natural history, etc., according to its scope. The museums never existed in the past nor will they exist in the future without any collection on show.

Historical Perspective

The museums came into being for the reasons of showing the treasures collected first by the individuals, naturally the affluent individuals, and later by the societies or associations of the learned scholars. In India or in any other part of the world, the royalties, the rich individuals and the religious institutions alone had the privilege of collecting and showing their treasures of art and other curiosities : the common man rarely had the opportunity of witnessing the spectacle of exotic and rare objects.

Owing to the origin at the hands of the rich, the museums were housed in palaces or in palatial public buildings which were frequented by the society elites, and which had the luxurious surroundings of tapestried or panelled walls and ornamental ceilings (Pl. 1). The works of art, particularly the paintings, which fascinated the collectors, almost became an essential element of decor. Crowded together, frame to frame, they created a grand spectacle of the paintings with their guilded frames. These owed their richness to the influence of gold-smithery on the arts of wood-working. The fascination behind the use of guilded frames was to surround beauty with beauty. The paintings were integrated as wall decor to the extent that these were incorporated in the wall panelling and were cut-down to sizes to suit the shapes and contours of the panelling. The predominent aspect of the wall decor was the painting and the idea was to show the art, rather than the decor. The crowding of pictures had been appreciated with the idea that an exhibition is more impressive when all kinds of paintings are presented together. Irrespective of the methods of exhibition, it was obvious that the collection needed exhibition spaces which acquired the names as gallery and cabinet. Germain Bazin explains the difference between the two, in his book "The Museum Age",[1] "that by the end of the sixteeeth century, the English word "gallery" connoted exhibition areas for painting or sculpture, while the "cabinet" (Pl. 2) designated both, collections of curiosities and places where *objects d'art* were conserved." He felt that the idea of exhibition originated in the use of space as a gallery.

The 'galleries' were the long corridors in palaces and public buildings, which came into use subsequently as exhibition places for works of art and became known as art-galleries. Sometimes galleries were special buildings with two levels; the lower level held antiquities and the upper level, paintings, furniture and the most diverse objects, displayed against red damask, as Bazin narrates. The objects were crowded together, "as a stall at a fair". The tapestry effect was used for showing all kinds of objects—porcelains, metal work and the other curiosities.

As per the styles of the period, upto the eighteenth century, irrespective of the type of objects exhibited, the principle of accumulation was in demand (Pl. 3). But inspite of the overflowing galleries, the elites and the antiquarians, who were privileged to see the collection, "delighted in loosing themselves in the forest of marble and bronze, impatient to recognise rare pieces on their own, for guide books were non-existent"? The exhibition served its purpose of giving pleasure and delight and adding to the knowledge, though only of the few as these benefits were limited to the high-ups in the society.

Owing to the progress in scientific experimentation and in archaeological studies the eighteenth century saw entry of scientific and archaeological objects to the galleries, in addition to the works of art and objects of curiosities. It also introduced a new type of gallery furniture in the shape of elegant glass-paned armoires (Pl. 4) which were used for displaying curios and instruments. However, by the end of the eighteenth century, presentation of museum objects, showed radical changes for various reasons, including transition and conceptual changes in exhibition and its techniques.

Exhibition as a Phenomenon

Exhibition born out of an infatuation for progress and technology in the beginning of the nineteenth century, developed as a commercial phenomenon. Its constant use in the International fairs and exhibitions, converted exhibition into a special type of building and almost entered into the realm of architecture, as an organisation of space, as structural construction and for problems of fittings and furnishing as well. Gradually the exteriors and interiors, which were treated separately earlier, became well coordinated, changing the very nature of exhibition. It became anaesthetic and a spiritual concept. As the architect Agnoldomenico Pica noted, "exhibition became a well defined work of art and aspired to a capacity of unitory creations in which the object ceased to be a casual episode and instead, became a precise word which was precisely articulated and modulated in that polemic, apologetic or explanatory discourse which is the very essence of modern exhibition".[2] This change-over suited the museum requirement perfectly and museums of even ancient art were rearranged according to the theory of modern exhibitory techniques (Pl. 5).

"Art and technique of exhibition have entered the museum as the museum substantially is not anything other than exhibition". We may not entirely agree with this statement of the architect Pica. But it cannot be denied that the museums eagerly accepted the new exhibition technique in the light of their changing concept, mainly due to the entry of scientific and archaeological and natural history collections in the galleries and with the emphasis on educational role of museums.

Another factor responsible for entry of modern exhibition techniques into the museum was recognition gained by exhibitionas a communication medium (Pl.6). Due to the increasing awareness of people to images, which was the cause of development of photography, films and television, at the end of the First World War, the exhibition, as a spectacular organisation of images and its visual impact, gained recognition as a medium of communication. It soon assumed its pre-eminent function of communication which could supplement, if not replace, the book and the magazine for purposes of communication and schools for education (Pls. 7 & 8).

Impact of Changing Philosophy

As in the exhibition, so in the museum, the changing philosophy became evident in theory as also in practice. The function of the museum education started asserting itself, particularly in the context of its use by public. The museum doors opened to all other enthusiasts, besides the antiquarians and scholars, irrespective of their educational background. To communicate on the level of its users, the museums started showing less but showing them attractively. The themes of exhibition became more specific and were planned for imparting indirect instruction and information in a discreet manner (Pl. 9).

The physical structure of museum galleries got modified consequent to the change. The hospitality of old buildings, through making many walls and little light available, served the purpose of the museums no more. The lateral light of the old buildings and their monumental atmosphere was no longer suitable. Over-head light replaced the lateral light, which had additional advantage of making the entire wall-space free for hanging pictures, and provided better visibility in the museum gallery, but this system was not entirely satisfactory and had to be replaced later with light from clerestory-type of high windows.

The history of art became visible in the gallery due to the introduction of the chronological arrangement of selected objects of the collection. "A great collection is more for one's instructions than delight", pleaded the new philosophers—the museologists. The advent of museology, the emphasis on art as educational means, and the museums as schools, converted the treasure-house museum into a living institution.

Modern Exhibition Techniques for Museums

The exhibition activity of a museum combines all the other functions like collection, preservation, research, interpretation and publication. Therefore, it needs a careful preparation. The exhibition in a museum has also the responsibility to its collection, of ensuring that it is the language through which the museum must communicate (Pl. 10).

In spite of the availability of modern techniques for use in the museum exhibitions, it is necessary to check their suitability. These techniques have to be modified for their adaptation. The museum galleries, particularly those having small collections but of diversified nature, must proceed cautiously in this regard. In the enthusiasm of adapting modern techniques, care must be taken to avoid prevalence of the container (Pl. 11) over the contained and not to overwhelm the objects displayed with the setting. The museum exhibition might go a step further by introducing a theme, a discourse, or a programme to be demonstrated as a conclusion. The objects should form a part of the surroundings in which they are shown. The objects, the surroundings, the lighting—all should be co-ordinated to give the one and the same message and convey the particular theme collectively, rather than being evaluated on their individual merits.

In the museums of science and natural history the exhibit has to be prepared showing the different stages of progress for which mostly models, replicas and graphics are employed. Such exhibits make extensive use of animation, recorded sound, slides and films, which are appropriate for demonstration of an experiment. Use of these require a well-planned strategy to ensure that the technique does not overshadow the theme. Extensive use of these techniques have converted the museums into the "exhibit centres"[3], which rely exclusively on use of the audio-visual aids in the absence of original materials.

In some countries, the museums are considered as an extension of the classroom. India has been no exception to this trend as is apparent from the science and natural history museums in India. But so long these museums rely on their original materials, there is no objection. But the moment the museums try to be independent of their original objects and depend solely on the audio-visual presentations, on the pattern of exhibit centres, these cannot be considered as museums. Since museum's primary medium is the object, the collection, the sample of reality. Interpretation of a collection with the help of audio-visual devices and demonstration apparatus is justified when they contribute in understanding the object itself. But the exhibition used as a medium of education without depending on the collection of originals does not qualify as museum exhibition. D. Cameron had criticised nearly ten years ago, the development of museums, particularly in the North America, as exhibit centres. He clarified that the environment created to enable the interpretation of a collection of related museum objects is not a varient on the exhibit medium but is a discrete medium", and categorically asked museums not to compete with the exhibit centre on its terms but seek excellence in the museum's own terms.

Types of Museum Exhibitions

It is an accepted practice now that the museums organise different types of exhibitions. Permanent exhibitions are designed to give a short survey of museum's collections by period-wise, chronological and style-wise classification of museum objects, depending on the nature of collection. It should, however, be possible to replace the collection, in the permanent galleries, without disturbing the classification of the collection and specialization of the museum. An exhibition based on the particular collection of a museum through which an appropriate theme, within the scope of the museum, presented as the core exhibition, is considered a permanent exhibition in the museum. Contrary to the old tradition of keeping all the objects in the gallery permanently, the permanent gallery has to be organised in a system within which it should be possible to rotate the objects presented in the gallery. This allows to reorganise and renovate the gallery-installations periodically and gives the museum an opportunity to bring out different objects from the reserve collection more often.

Temporary or short term exhibitions provide an excellent opportunity to a museum to bring its research activities to the galleries. The celebration of the festivals, and other occasions like that of important conferences, provide the themes for the periodic exhibitions. Through a well planned programme of temporary exhibitions, it is possible to attract the same visitors to the museum many more times, once they develop interest. Such exhibitions could use scholarly as well as popular themes, which provide a chance to sort out the museum collection and to find out the laucuna in the particular collections, and to utilise the occasion for acquiring additional objects required to fill in the gaps.

The international and national co-operation for exchange of collection makes such exhibitions important and prominent, and bring credit to the museum. In many countries temporary exhibitions assembled and installed by one museum are circulated amongst other museums in the country, thus deriving benefit for people in different cities and making it possible for small museums to have more exhibitions, which are otherwise not possible for them.

Though interpretation of museum collection for dissemination of knowledge leading to education, is one of the functions of a museum, and for that reasons most of the museum exhibitions are for education, besides pleasure and delight, however there is enough latitude for a museum to organise educational exhibitions when the visitors could be informed, with all the possible audio-visual aids, of course, used in a discreet manner, about the relevant aspects of the theme of the particular exhibition and about the objects woven into the story of the exhibition.

For example, for an educational exhibition of "Indian Bronzes", it will be appropriate to inform the visitors about the methods of metal-casting and even to arrange a live demonstration of different processes of metal-casting, to arganise a slide-show, lectures on the techniques, etc, to go along with the objects even insidethe exhibition gallery. Large blow-ups of master-pieces of Indian bronzes from collection of other museums, which could not be obtained for the exhibition, may also be co-opted in the exhibition. The aim of the educational exhibition is to instruct the visitors, which can be done with the help of aids with the sole purpose of leading the visitors to the original museum objects (Pl. 12)..

These aids are for interpreting specimens and their significance and for translating for the layman the varied and complex ideas, of the historical heritage in this particular case, and in the science museums, the aids simplify the complexity produced by scientific experiments, and for keeping up with the rapidly moving knowledge. The audio-visual aids and so also the museum objects can be used for interpreting the significance of the past to the layman to inspire him for the future.

The organisation of an exhibition is a very complex job as it involves qualified and experienced personnel in the varied and diverse techniques. Besides the curator, who provides, checks and adjusts the scripts and selects the objects, there are many others needed with their different expertise, which include designers, artists, illustrators, photographers, cabinet-makers, spray-painters, electricians, modelmakers, silk screen workers, taxi-dermists, electronic experts, etc. depending on the type of collection and exhibition.

Ideally, an exhibition is based on a script[4] developed jointly by the director, along with the curator in-charge of the collection, which sets for the purpose and objectives of the exhibition, describes what is to be shown, and selects and identifies the objects to be included; and provide captions, labels and other editorial materials. Then the designer develops a plan covering the layout of the exhibition in the space designated for the exhibition, decides on the exhibition techniques, traffic patterns, the over-all style and appearance of the exhibition hall. With the help of the trained personnel, curators and a few members of the staff, the exhibition work can be executed, as normally happens.

In conclusion, it must be stated that exhibition as a medium of education is a very powerful instrument in the hands of museums but it must be used discreetly. S.F. Markham pointed out in his book '*Museum of India*' in 1936, that a nation with 1/6th of world population had only 105 museums. Though today in 1979, the number of museums has gone upto 400, the proportion has not changed in relation to the increasing population. Markham's recommendation that, "with a population problem and language problem combined, there is perfect opportunity for the development of imaginative new techniques, using displays and objects to communicate ideas and teach", still holds good.

In his '*Essays on museums*', Dillon Riplay spells out the role of museum saying that in a developing country, museums bring man face to face with the benefits of technology, the lessons and examples of history, the value of culture, his own and other people's.

Besides today, in India particularly, an urgent need is felt to overcome the modern westernised education which seem to have no roots in the indigenous culture and has created a cultural impoverishment. The museum exhibition is the ideal weapon to recapture the lost horizon. The museum which preserves the cultural heritage is the right answer to the recourse of education and culture.

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2

USING NATURAL LIGHT FOR MUSEUM EXHIBITION

V. H. BEDEKAR

Thanks to the sustained compaigns by the "Environmentalists" these days, we tend to think "solar". Our enthusiasm for using the solar energy in other walks of life may encourage us to explore the possibilities of using natural light in our galleries more creatively. It may sound paradoxical that, in India, we have to reaffirm our resolve to use the natural light which we have in plenty. It is, however, necessary because, during the last few years, many museologists have shown an extraordinary reluctance to plan their exhibitions based on the use of the natural light. It will not be an exaggeration to state that in the minds of many, an exclusive dependance on artificial lighting has come to be associated with the "modernization" of displays. Consequently, when new buildings are planned, windows are eliminated altogether, and those in the old buildings are closed down, either temporarily or permanently.

The recent tendency to depend on artificial light for exhibition purpose is understandable. The literature on the subject of conservation of museum materials is full of dire consequences of the thoughtless exposure of organic materials to long periods of exhibition where daylight is in use. The sombre analytical accounts of the manner in which the irreversible physico-chemical changes take place in museum objects and specimens under the bombardment of energy, represented by visible and invisible light, simply frighten the untrained museum curator. He decides to "play safe" and shun the natural light. To him, the closing of the windows represents the first step towards applying the so-called modern principles of museology.

Let us see the oft-repeated objections to the use of natural light besides the problems of conservation they give rise to. We are told that they reduce drastically the fullest use of both wall space and the floor space available in a gallery. Further, it is felt that because of the windows, the flexibility in planning the lay-out of the presentations is very much reduced. The exceptions to this observation are in the form of "sky-lights" which being above, in the ceilings, do not inhibit flexibility. But they have their own drawbacks such as difficulties in the matter of maintenance particularly in the rainy season, and not to mention the annoyance they cause by letting in more light on the central parts of the galleries than on the walls, on which most of museum exhibits are installed.

The museological literature is full of the advantages and disadvantages of natural and artificial lighting. Therefore, another oft-repeated adivce the lay-curator receives, urges him to combine the uses of both sources of illumination, a thing easily said than done. Not that it is impossible but it calls for much original thinking because each gallery poses peculiar problems. One has to take into account not only the requirements of the things to be shown but also the number and the situation of the windows and doorways. Equally relevant is the size and shape of the galleries. The side windows are sufficient source of light where the gallery is not too broad. Even if there are windows on two or more sides, the central portion of the gallery would remain relatively in dark. For this reason, the window areas and the height at which the windows are situated will largely determine the optimum width of galleries. In this connection, the special advantages of the sloping "lay"-lights on the periphery of the galleries may be taken into consideration. While designing new buildings, possibilities of having structural "set-backs" be explored so that the 'North light' can be used on each floor. Similarly, the windows which strech from the ceiling to the floor, and the clerestory or "ribbon" like windows that are sometimes described as "high-up" windows have their own capacity to let in natural light depending on the direction in which they happen to be situated. Only after taking their full or partial use one may think in terms of combining the natural and artificial light.

The windows are required not only for the purpose of lighting. They are also necessary for the circulation of air. This aspect needs careful consideration. The specialists in the science of conservation tell us that windows at whatever height they may be, must be "nonconductive" of heat from out-side. This is an impossibility under Indian conditions unless the windows open out into verandahs which can be closed fully or partially. In the case of the normal windows that open out directly, there will be need to cover them with devices like sun-breakers, movable or permanent cupolas, or canopies, or at least folding shades. These will help in preventing the hot air from gushing directly into the gallery space and making it unsuitable for the visitors as well as the objects. Moreover, such devices are necessary for keeping the level of illumination within the prescribed limits. The level should be as low as 50 lux for the sensitive organic objects and painted surfaces. Hence keeping the windows open implies an awareness about risks involved. It will need good planning to use the windows for getting just the right level of light at the same time ensuring comfortable circulation of air. The efforts in that direction will pay rich dividends because in our museums, particularly in summer, no fans are too many. Also even a partial dependence of the natural light will lower our recurrent power bills.

We hear many vague generalizations about the nature of light. They hardly help us in our display strategy until we study their implications in practical terms. What are these important generalizations ? Firstly, the degree of visibility of objects is determined by the amount, colour and angle of the illumination. So while relying on the natural light, we may concentrate on the angle at which it is allowed into the galleries in the first place and, secondly, into the display cases or over display screens, etc. The colour of the natural light is just what is desirable but the amount of it requires strict regulation in relation to the surface of the things on display. Here, another generalization becomes relevant : more light is needed on objects whose colours are not distinct and which have minute details of design and decoration. The darker objects need more light; the lighter coloured objects, less. This observation needs to be kept in mind in the use of the natural light from windows so that the placements of things inside the cases in relation to the light source can be determined only after noting their appearances. It will certainly need original thinking to do so without disturbing the sequences and the order in which the individual objects are to be installed.

A third generalization of some relevance recommends contrast between the light falling on the objects and that over the backgrounds. We see things in relation to their backgrounds and this law of perception helps us in the use of natural light which, because of its latent destructive power, has to be used sparingly. Some very creative efforts are called for in preventing the light from windows to fall equally on the objects and their backgrounds. Many ways can be suggested. For example, the distance between the objects and the background can be widened, or the latter can be made sloping at such an angle that it is in a shadow. Yet if the background is holding any labels or visual aids, they will have to be brought into the path of the light. A recourse may be taken to the adjustment of the colour of the background and also its texture for the sake of contrast so that objects even under less illumination will stand out.

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Fourthly, we have to take notice of the observation that the visitor should be in comparative darkness. This poses special challenge because the natural light from the windows is most likely to fall on the visitors. Fifthly, the generalization about the distracting effects needs to be taken into account. It is rightly said that in a gallery anything other than exhibits should not appear to be bright as that leads to distraction. A naked source of light is a distraction at its worst. But making windows inconspicuous will involve many difficulties which require to be solved by designing suitable venetian blinds, louvres, etc.

Many more generalizations can be cited. They remind us that the task of controlling the amount, colour and angle of illumination is both challenging and rewarding and certainly not a mechanical routine work. As will be seen from the following discussion, many possibilities are to be explored to make an economical and efficient use of the natural light taking into consideration the requirements of the conservation, circulation of air and aesthetic appeal.

The light coming into the gallery through a side window is usually too much and the first precaution we have to take is to avoid reflections and glare. The portion of the wall on either side of the window is not adequately illuminated. Same is the case with the portion of a wall between two windows. Both of these places are not suitable for installation depending on the natural light, unless sufficient illumination is falling on it from the windows on the opposite side of the gallery. For this reason, we often see that pedestals and vertical cases wrongly arranged at right angle to the windows, usually, without controlling the natural light. When a spectator stands before such a case, he finds his own reflection on the glass-front as the level of illumination outside the case is far more than that inside. Same difficulty is apparent when vertical showcases are placed directly in front of a window on the other side of the gallery, or along an enclosure made with the help of partitions. They reflect the bright shape of the window. This difficulty can be overcome by changing the angle of the front glasses and changing the position of the cases till the reflections disappear. At the sametime, the windows will have to be fitted with vertical blinds to prevent the light falling on the visitors. It is suggested that in a gallery with a number of side windows on one side, pairs of vertical cases, or an ensemble of screen and pedestals, can be arranged to form a series of enclosures for displays of groups of materials (fig. 1a-d).

The natural light from side windows can be appropriately used in many ways. For instance, by placing frames with frosted glass against a window, we can install against it materials like leather puppets, herbarium sheets, and, of course, the articles of glass and other translucent materials. Depending on the width of the material, the thickness of the frame or case to be placed against is to be determined. Similar material which can be advantageously seen when held against light may be presented in other forms of cases, such as cross-shaped, or trifoil-shaped or cases in zig-zag forms (fig. 2).

The side windows are used in many museums for illuminating 'table' cases and 'desk' cases. These are kept along the wall below the windows. But the brightness of the light from the windows at a close range is so much overpowering that the visitor's attention is distracted. This can be avoided by means of well designed Venetian blinds directing the light on the cases (fig. 3a-c). The changing of the angle of the covering glass does help in avoiding reflections of the windows. The accompanying photograph shows a good case kept near a side window at an angle that no reflection of the window falls on it covering glass (though we see reflection of another window on it because of the angle from which I had taken the photograph). In the same photograph we also find a piece of stone slab installed against a very dark back-drop, in a shallow niche, so that only the relevant part gets the tangential natural light from the side window (Pl. 13).

In Pl. 14, we see how a small case is fastened unto a tallish screen. The pre-historic implements in it get good natural light from the side window. The visual aids in the form of the photographs of the sites of excavations and diagrams get comparatively less degree of illumination, as ought to be. We can appreciate how the side light is used to illuminate three samples of soil and earth, in cross sections, held against glass in boxes (Pl. 15). An example from the Tropical Museum, Amsterdam, is worth noting because we see that the natural side light is used to get a large map painted on ground glass panes, illuminated from the rear. I recall that different textures were struck from the back to differentiate the several political states, using inexpensive waste material like threads (Pl. 16).

In some museums we find very tall but narrow windows. They stretch from the ceiling to the floor of the gallery and their sheer height increases their brightness manifold. They increase the risk of deterioration but defy regulation of the direction of the natural light. If the tall windows are on both sides of a hall, and many in number, as in the University Museum, Vallabh Vidyanagar, the problem is compounded. They throw more light on the visitors than on the objects in the cases. Here, one can not see a remedy in merely providing more artificial light inside the cases to prevent reflections, because, together with the outside natural light, the total level inside the cases would be excessive. This problem can be solved in many ways. As can be seen (fig. 4), a structure may be created outside the gallery itself, so that a kind of "built-out" case is prepared. This may be at the eye-level. The parts above and below may be covered so as to block light but not the ventilation. The ventilation may be let into the gallery either through blinds or, preferably, from side openings behind a narrow panel (fig. 5). If the gallery has a series of tall windows in gaps between narrow walls (fig. 6a-b), a suitable lay-out can be achieved after placing the vertical cases, preferably with sloping glasses from both sides, at right angle to the narrow walls, in front of the tall windows. Thus, satisfactory light can be directed on the exhibits. Moreover, the visitor with his back turned towards the windows, would not be dazzled by the bright appearance of the tall windows.

The normal-sized windows can be used for getting internal light into the vertical or "built-in" type of showcases. But this needs much advance planning. These may be errected along the wall in front of windows, or at right angle to the centre of a window (figs. 7a-b and 8a-b). They will be illuminated from the windows, the light being reflected (and even re-reflected) over a series of surfaces till it appears to fall on the objects from the top, or diagonally or from the side or sides, and in rare cases, from below. Such an effective diversified use of the natural light as an internal reflected light implies very high degree of advance planning. Often the objects that need more light will have to be moved nearer to the window. The overall view of such structure will be a screen with built-in cases. Such structure can be a long screen to cover all the side windows. Thereby we get ventilation without the bright disturbing light. I had similar objective in mind when I designed the row of show-cases on the right side in the Decorative Arts Gallery in the Prince of Wales Museum of Western India, Bombay. Even now one can find how the windows, with grill fixed for security, situated behind the cases can be opened everyday morning by a servant crawling under the row of the cases unseen from the gallery because of a side entrance. That way the circulation of air is taken care of, without getting into the very narrow gallery so much of dazzling light. I had not attempted the use of natural light for the internal display. That was not impossible. The constraint then was to have the same type of illumination on both sides of the narrow gallery. One must remember the limitation in using the windows for the internal case lighting. If the windows are on one side only, this method can illuminate the cases nearer to them. When the light is blocked off for reflecting into some cases, it cannot also illuminate anything beyond.

The side windows can be helpful to get illumination from top if they are at reasonable height from the gallery floor level. In Pl. 17 one can see such an arrangement actually made in an European Museum. In passing, one may study the large windows in Pl. 18, which because of their dimensions, remove the barriers between the Museum and the nature outside. They are the type very suitable for lighting metallic, stone or contemporary sculptures.

Suggested Reading

1. Agrawal, O.P., Tandon, B.N. and Ahluwalia, S.T., 'Museum Lighting', in *Museum Architecture*', All India Museums Conference Proceedings, New Delhi, 1971, pp. 55-67.

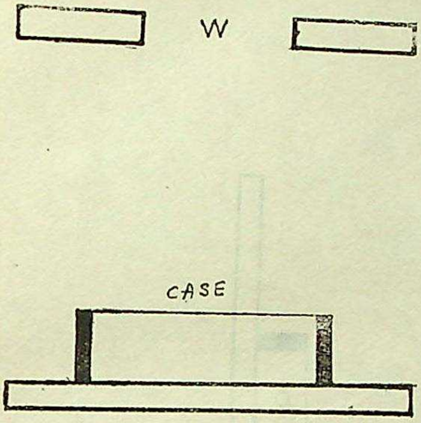

Fig. 1 (a)

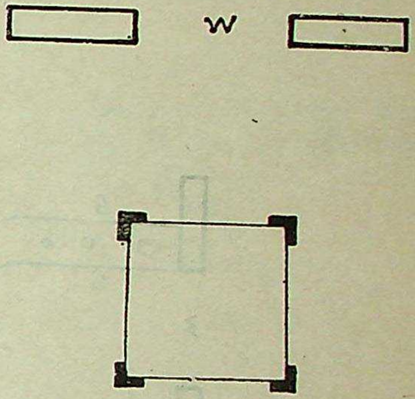

Fig. (b)

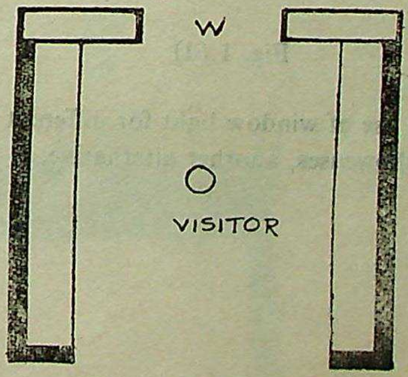

Fig. 1 (c)

How to make use of natural light coming from a window, three alternatives.

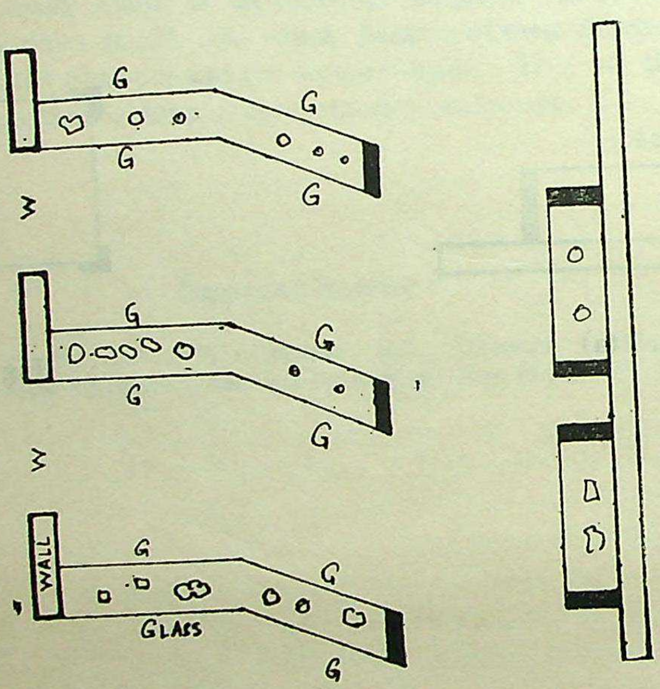
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Fig. 1 (d)

How to make use of window light for different types of showcases, another alternative.

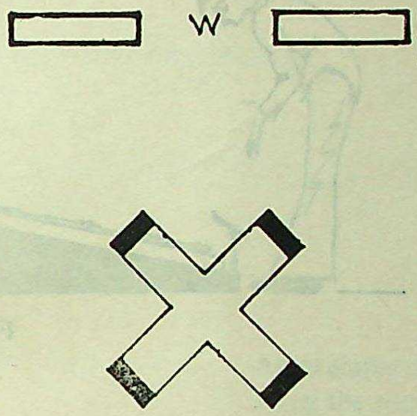


Fig. 2. Use of window light on cross-shaped showcase.

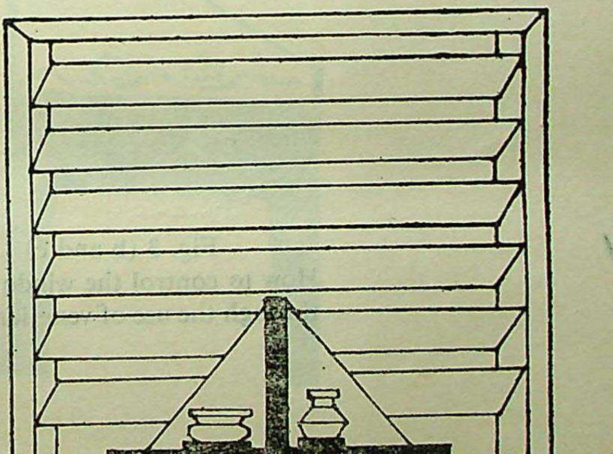


Fig. 3 (a)
Focussing the window-light on a tableshowcase with the help of venetian blinds.

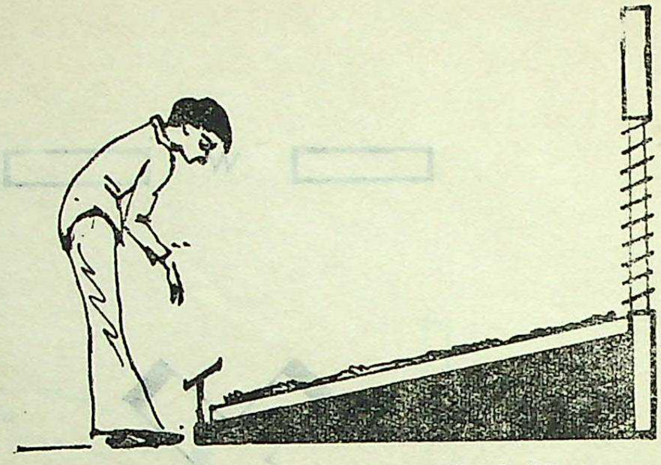


Fig. 3 (b)

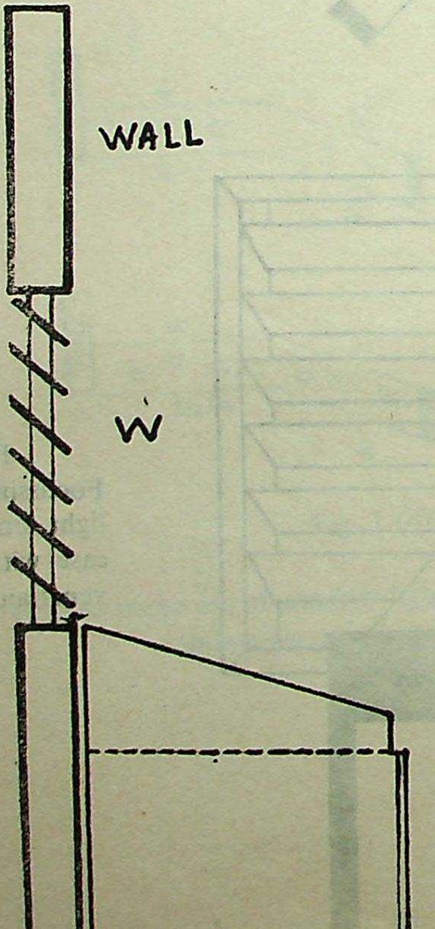


Fig. 3 (c)

Fig. 3 (b and c)
How to control the window-light through the use of venetian blinds.

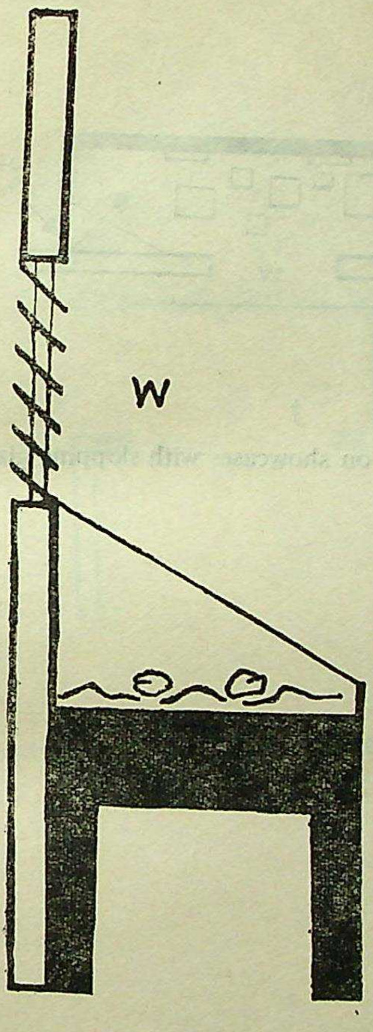
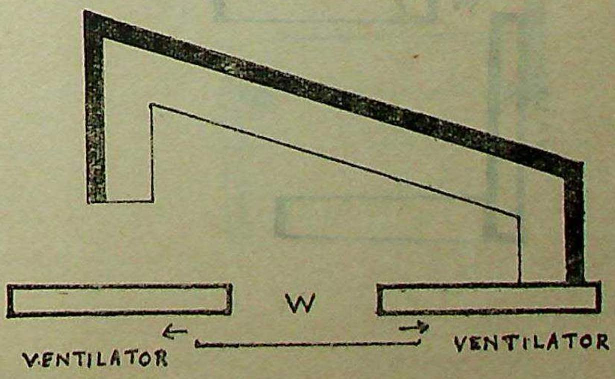


Fig. 4.
An example of a built-out showcase for using the window light.

Fig. 5
Ventilation in the gallery through side opening behind a narrow panel.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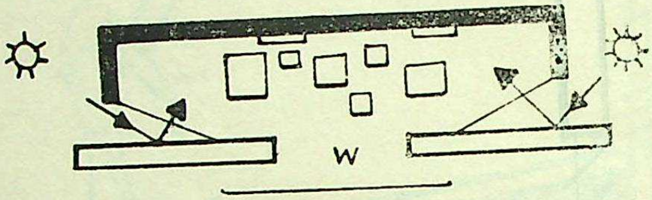

Fig. 6 (a)

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How to use light coming from high windows on showcases with slopping glasses.

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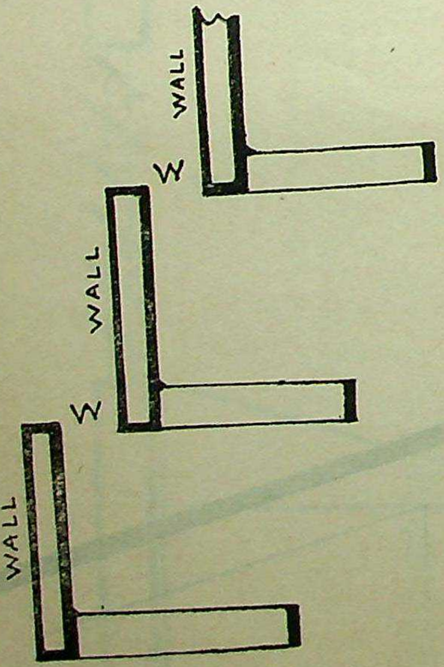
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Fig. 6 (b)

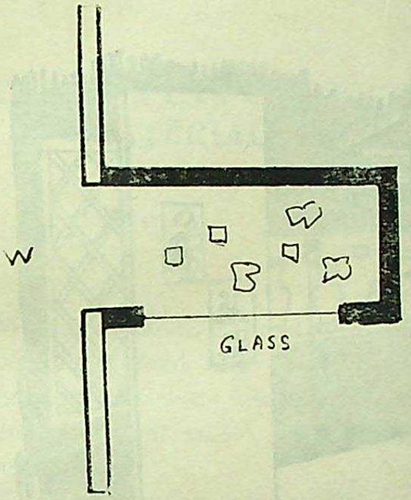

Fig. 7 (a)

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Two examples of the use of window light by directing it on showcases.

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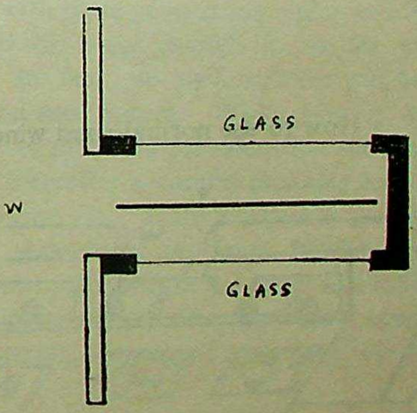
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Fig. 7 (b)

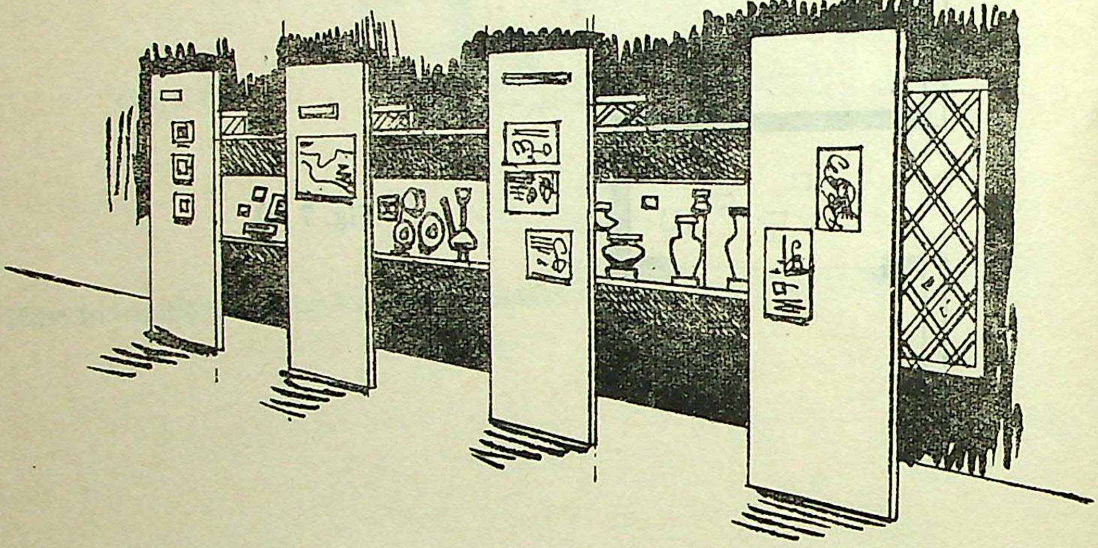

Fig. 8 (a)

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How to use normal-sized window light, two examples.

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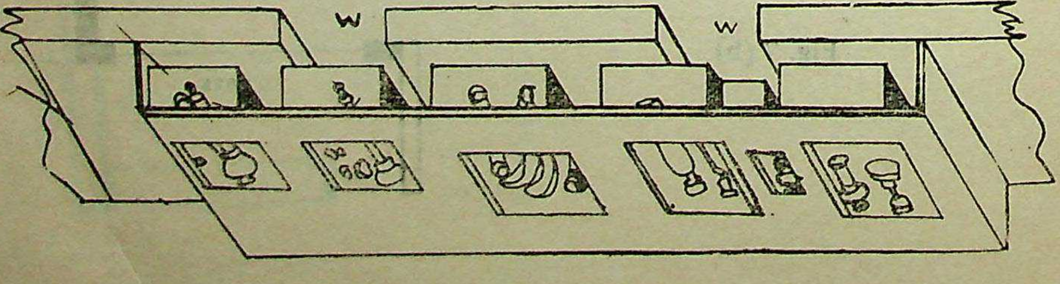

Fig. 8 (b)

3

THE DISPLAY OF PREHISTORIC AND PROTOHISTORIC MATERIALS IN A MUSEUM : SOME SUGGESTIONS

LALA ADITYA NARAYAN

Museum symbolise the place where objects, either man made or natural, are collected, preserved and displayed and through them knowledge is disseminated. All these objectives are interlinked with one another but it is the last two (display and dissemination), which are of primary importance to those who come to visit a museum.

The presentation of the objects should be done in a manner that they should immediately arrest the attention of the visitors irrespective of their age and educational background. The task is not so simple as it sounds, for it requires a good deal of artistic perception followed by a high degree of skill and patience. The normal principles of display envisages that the object has to be put on view at a height equal to the normal eye level; the light, whether natural or artificial, should fall on the object obliquely to bring out the full view of the exhibit. While displaying care must be taken to follow the sequential order of the exhibits. A museum man is expected to be acquainted with these general principles and follow them into practice as far as practicable. But this is not enough in so far as the presentation of the objects is concerned. In fact, no uniform rules can be formulated for exhibiting objects of various kind and nature. While setting up an exhibition of sculptures, one has first of all to take into consideration the size and weight of the sculptures to be presented and thereafter a careful planning has to be done according to their school, date and theme, etc. If the sculptures are smaller in size, they can suitably be shown in wall show-cases on small blocks. A life size piece will have to be placed in a central place within the space available for exhibition. The methods adopted in the presentation of sculptures cannot be applied to the display of the excavated materials, because of their sizes, variety of material and location.

The problem becomes more complicated when it comes to the display of prehistoric and protohistoric materials. The stone tools by themselves are least attractive. Moreover, most of these are so small in size that they can hardly catch anybody's attention. We have to display them in a way which is both attractive and educative. When we talk of prehistory, we mean that stage of human society when man had just emerged on earth, had no knowledge of writing and of practising agriculture. Man, as we know, emerged on this earth with two hands and a brain. He was completely parasite on nature and accepted what the nature offered him to eat. He remained content with wild fruits, nuts, berries and roots available in the nature but the quantum of vegetable food available was not sufficient to maintain the community throughout the year. He was, therefore, compelled to look for substitute in the nature. He found out that wild games could be made use of for the subsistence but the problem was how to catch them. It is surmised that in the beginning man might have made use of pebbles to kill the games but soon he realised that a fractured pebble would be more effective in causing injury to an animal than a smooth pebble. Probably, this observation prompted him to convert the pebbles into tools by chipping. The discovery of stone tools from the river side or the bed-load of the rivers, caves and lakes, point to the fact that man in his early stage of existence preferred to stay in the areas where water, suitable raw material (stone) and plenty of wild games were available. Further, the climatic condition during which man emerged was very harsh and of fluctuating nature. In higher altitudes man experienced heavy cold condition and in tropical belts heavy rainfall. Sometimes the climate used to become extremely dry but cool. The above basic facts of the living condition of the early man have been thoroughly investigated and proved to be true by the pioneers in the field of prehistory in the different regions of the world.

The prehistoric artifacts that have survived the ravages of time are found in the form of stone tools of various shapes (Pl. 19). Other material remains made either of wood or bone or the skeletal remains of the hunted animals or the evidence of producing fire to make the shelter warm from biting cold and also to ward off the attack of wild animals, have, in most cases, vanished. The discovery of wooden artifacts, charcoal and skeletal remains from a few prehistoric sites of the world does indicate the development in the technological skill and intelligence of man in the early stage of his existence.

As the evidence stands, the history of the origin of man goes back to 20 lakhs of years. Since then till 20,000 years B.P. man was in the hunting/gathering stage. During this long span of time, popularly known as Palaeolithic Age, man, no doubt, made progress mentally and technologically but at a slow pace. The stages of his mental development have been divided into early, middle and upper Palaeolithic ages. After this, a phase comes which is transitional from hunting to food producing, commonly known as 'Mesolithic Period'. In the next stage hunting is completely replaced by agricultural production, known as the Neolithic Stage. From this stage man started leading a sedantery life. A new stage of economy begins which prompted the human society to construct houses of their own out of the easily available materials in the nature (Pl. 20), domesticate animals and fashion earthen utensils. Several other inventions were made by exploiting the natural gift to make the living conditions happier.

Armed with these facts, the story of the emergence of man as a hunter/gatherer till he started practising agriculture should be presented depicting the climatic condition during the time, his zeal for the search of raw material, the way of hunting and manufacturing tools, etc. In other words, a conjectural restoration of the way of life of the early man should be made in the form of a diorama which would make the entire thing visual and easy for comprehension. A conjectural diorama showing how the stone tools were used for killing big games, like elephant, rhinoceros and small fishes, etc. are bound to attract the visitors. His gradual development through various stages, *i.e.*, Jawa Man, Cro-Magnan Man, etc. will also be quite educative.* Copies of cave or rock-shelter paintings will not only add colour to the display but will make it easier for the visitors to understand the early phase of human development. If possible a conjectural reconstruction of the cave should also be made in the gallery. It will help in creating the proper atmosphere.

Our knowledge of the Chalcolithic period begins with the discovery of Harappa and Mohenjo-daro. The excavations at these sites revealed that the people made use of burnt bricks in the construction of their houses and that the cities were well planned with wide roads and having greater attention for sanitation. The discovery of copper enabled the people to make series of inventions. The material relics which have come down to us from these sites are constituted of earthen utensils, terracotta objects, beads of semi-precious stones, copper and clay, copper artifacts, gold ornaments and several objects of lapidary art.

In the protohistory gallery, broken earthen pots, art specimens made in clay, stone and bronze, ornaments made of stone, gold, copper and clay and various other objects which were once in use in the society are put on show (Pl. 21). The objective presentation of these objects hardly creates an impact on the minds of average visitors. Such presentation almost becomes drab and dry as bone. They cursorily see the objects within a few minutes and move on saying that these are useless things. Quite often they ask why have these broken pieces of pottery or terracottas been preserved. What purpose do they serve? Such comments, no doubt, point to their ignorance of the educative aspect inherent in them.

To make the display of the excavated materials meaningful and at the same time eye-catching, the museum curator will have to delve deep into the subject and bring to view the educative aspect contained in the broken sherds, beads, terracottas, etc., with the help of charts and drawings. For instance, let us take a single example of stone beads and their present way of presentation. The beads of various shapes and materials discovered from the excavated sites like Harappa, Mohanjo-daro and Chanhu-daro have been put together in a thread and hung in a vertical show-case. This display, no doubt, gives an idea to the visitor that the people in the Chalcolithic age at Harappa used to wear ornaments made of various kinds of colourful stones, faience, steatite, gold and clay. However the technological skill involved in their manufacture is, in fact, not at all visual. The purpose of a museum, as we understand today, is to educate the mass and through these material relics we try to understand the human beings who had created them. To understand the human mind one should go into the details of the techniques involved in the manufacture of beads. The different stages of their manufacturing processes as well as the equipments utilized will have to be shown with the help of the photographs of the actual equipments used. Finally, the reconstruction of the shapes of the ornaments will enable one to form an idea about the aesthetic taste of the people. If a sketch of a lady is made on the wall and bead-necklace is hung round her neck, it will not only be more attractive but will be easiser even for a lay man to understand.

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* [Please see Sri S.K. Andhare's article for elaboration of this point. Editor]

The technicalities involved in the bead-making make it amply clear that it was a specialised craft which could have been pursued only by personnel trained in that particular field. When we go into the history of bead making, it comes to our notice that the different sets of people having experience in their own field were engaged in this craft. The man who made a search of colourful stones like agate, chalcedony, carnelian, lapis-lazuli, etc., must have a keen sense of perception, otherwise, it would have been difficult to locate and identify such beautiful materials. These persons either collected the nodules of such semi-precious stones from the dried bed of the rivers where they came rolling with the running water or they quarried them from the area where they occured. The raw material so procured was passed on to local craftsmen who knew the technique of flaking stones and other processes involved in making the finished beads. The finished beads were then converted into various shapes of ornaments to be worn round the neck, hip, arm and wrist, etc., by another set of artisans. The ornaments so made were put on sale by the dealers. Thus from the above it becomes apparent that in one particular craft (bead-making) three to four sets of people were engaged. This sort of analysis of each variety of artifact discovered from the excavations will allow any visitor to understand the mental make-up of the craftsmen, their skill, the aesthetic sense of the society and in a way the division of labour. The paintings showing conjectural reconstruction of such processess will make the display quite meaningful. These educative aspects inherent in the material relics, whether intact or broken, of any age will certainly create interest and a visitor can learn many things from them.

The equally interesting are certain querries of the visitors in a prehistory gallery. They want to know as to how and from where the ancient objects are discovered and their dates arrived at. Such querries can best be answered by means of photographs taken on the occasion of excavation of an ancient site. If the photographs showing an ancient mound, the laying out of the trenches for excavation, the marking of strata, the process of cleaning and numbering the excavated antiquities, pottery, yard, etc., are displayed with explanatory notes, the visitors can easily understand the process of discovery and the likely places to yield the ancient objects. If there happens to be any archaeological site near that city, for instance, the Purana Quila site in New-

Delhi, it should be highlighted. This will invoke local sentiment and people will feel involved. The museum of the Deccan College and Post-graduate Research Institute, Poona, has made this task extremely easy to comprehend by showing a cast of a section drawing of a trench.* This cast shows clearly demarcated layers in which the antiquities lay buried. The layers explain that the lower most stratum is the oldest than the overlying layers. This way a relative chronology is established and then the absolute dates are arrived at by means of several scientific methods. Such display of excavated materials makes the whole thing meaningful and quite amusing (Pl. 22). Frequent use of maps and charts is a must for such galleries. But there is no denying the fact that the display of prehistoric and protohistoric materials in the manner suggested above needs sufficient budget, skill and imagination. Nevertheless, a museum curator has no other go but to adopt the suggestions outlined above.

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* [Please see Dr. H.D. Sankalia's article on "Museum Display of Archaeological Excavations", and the photographs accompanying it. Editor]

Suggested Readings

1. Sankalia, H.D., 'Displaying Excavations in a Museum,' *Journal of Indian Museums*, Vol. XIII (1957), pp. 12-14.
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3. Bedekar, V.N., 'Three Aspeets of Display,' *Journal of Indian Museums*, Vols. XIV-XVI (1958-60), pp. 65-67.
4. ———, 'The Problem of Negative Space in Display Cases,' *Journal of Indian Museums.* Vols. XIV-XVI (1958-60), pp. 68-69.
5. Pramod Chandra, 'Modern Display and Indian Museums', *Journal of Indian Museums*, Vols. XVII-XX (1961-64), pp. 46-52.
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MUSEUM DISPLAY OF ARCHAEOLOGICAL EXCAVATIONS

H.D. SANKALIA

The organizers of this *Festschrift* have set definite objectives before me. They want to know :

1. How to make the excavated material, which is at present stocked in stores, available to persons interested in the subject ?
2. How best to exhibit this material, assuming that this is available ?
3. To what extent dioramas are permissible in archaeological galleries ?

Any archaeological excavation, either in India or elsewhere, has the basic or fundamental aim of increasing or advancing our knowledge of the past (even if it be confined, as some years ago, to obtaining precious or artistic objects for display in a museum or in a person's drawing room).

Unfortunately in India this fundamental aim was soon lost sight of, because for over a hundred years, all excavations in this country were done by the officers of the Government of India. Naturally, as in all other things the Government has, as a sense of Government monopoly, a right to keep the knowledge away from the public and persons interested in the subject developed unconsciously. Unconsciously because as in some other cases there was little secret or confidential about these excavations and the material obtained from them. For nearly seven decades (*c.*1860-1945), the view that the Government has not only a physical monopoly, a right over all archaeological material but even over the right dissemination of the knowledge about it grew, so much so that but for a brief interlude during the period when Dr. Wheeler was the D.G.A., when the view was readically relaxed, it has hardened (barring of course exceptions). Hence photography of excavated archaeological sites (and objects) is refused. If this is the case for simple photography, how can one expect that the Government will allow anybody to study the excavated material, much less display it in museums ? The reasons for this attitude is simple. The archaeologists of the ASI regard themselves as officers first, and educators or scholars afterwards, hence the practice of storing away things, unless reports on it are written. This unfortunately rarely happens, because the officer gets transferred, gives his position to another and naturally he finds no time to study the material excavated by him. And he argues (rightly) that how can it be displayed unless it is studied ? Though no particular person or persons are responsible for the birth and growth of this attitude in India, it is forgotten that archaeology is an intellectual discipline, its basic aim being to know our past, so that we can guide ourselves in the future. Viewed this way, all excavators—whether in the Government or in a university, are the trustees of the nation. It is the public money that they are spending and nobody has a right to withhold this knowledge indefinitely. No doubt, the excavator and the agency behind him have the first right to work on the material excavated by them, but this right—if at all it is a right—should not extend for more than 2 years—a time suggested by Dr. Wheeler for writing out the report. In brief, the attitude of the ASI and many universities is bureaucratic and monopolistic.

As opposed to this, my training as well as subsequent life has run in a different groove. I was trained by the archaeologists who were essentially teachers. And a teacher, as his profession and vocation demands, has to spread knowledge, not to sit tight over it. Particularly this I learnt from Dr. Wheeler at Maiden Castle, where he went out of his way in inviting news-reporters to visit the excavation and take photographs. The same liberty was given to the students like me who participated in the excavation. Earlier Father Heras permitted and encouraged all his pupils to make the fullest use of his library and museum.

It was with this background that I began work at the Deccan College. Here, opportunities were offered to me to excavate in Gujarat, Maharashtra, Madhya Pradesh, Andhra, Karnataka and also conduct explorations in several other parts of India. Everywhere my first aim was to inform the people of the place and region where the excavation was conducted. This I had preached in a lecture I delivered in 1937-38. Hence exhibitions were held on the site of the excavation at Kolhapur, Nasik, Nevasa, Langhnaj, Maheshwar, Navdatoli, Tripuri, Dwarka, and thrice at Inamgaon.

The question now is "how should the finds be displayed on the site, as well as in a museum gallery?"

The principal aim in any display should be to inform and to educate the visitor. This has got to be done artistically as well as unobtrusively. However, methods would differ from institute to institute depending upon the facilities available at each place. Hence I would divide the museums into :

(I) Display Museums, like the National Museum, New Delhi, or the Prince of Wales Museum, Bombay, and

(II) Study Museums in Research Institutes and Universities.

In the former, the emphasis of late is on artistic display, so much so that a large space has sometimes to be devoted for the display of a single object. This trend has made or created an impression that only that is a good museum—or a "museum at all" where the things are displayed artistically. This trend should be checked, for in a country like India where space and facilities for display are very limited, one cannot or should not set such a high or unattainable standard—particularly for our young students who have no idea of the difficulties of space, and funds which a museum curator or a university teacher has to face. Pointed attention to this fact has been drawn because some of my young colleagues who had little experience of building up a museum or students of Museology while visiting our museum at the Deccan College wondered how this could be regarded as a museum!! "For were not the things crowded and exhibited in old fashioned showcases?"

This criticism is no doubt true, but critics forget that my one aim was to display the objects from our excavations, so that any interested person could study them easily.

Most of the finds—stone-tools, animal-bones and human-skeletons from our first excavations in Gujarat (1941-42) were exhibited in the only showcases I had—and these were inherited from the Satara Museum—and kept in the room where I sat! For there was no other place nor method of displaying the finds. And I think this served the purpose admirably well, though some scholars from Bengal thought that I should have displayed a few select things only, forgetting that these were the first finds, and it was not advisable to create a false impression by displaying a few artistic things only. Secondly, we were studying the collection in our spare time. And it is during one of these visits to my room in the Jeejibhoy Castle, that the late Dr. (Mrs.) Karve picked up portion of a human skull from my 1942 Langhnaj excavation kept in a tray on my table along with other bones!! Even now, after nearly 40 years, I would give the same advice to my colleagues in the Survey (as I had done to the previous D.G.As) that they should find some time from their very busy routine and study the finds. And this can be done only if the finds are kept in one's room. For it is rare that one finds—either as a teacher or as an officer,—absolutely undisturbed time for work. Further, any interested person can be shown the finds, if these are easily available.

Later when we got back our own premises at the Deccan College, the finds from Gujarat, Nasik and Nevasa excavations were displayed in a separate building. This was not an ideal museum building. The space was limited and the walls were cut up by numerous windows. While the available large showcases were placed in the centre of the hall, special, small, wall-cases had to be made to utilize the existing wall surfaces. Naturally these could display only small finds like coins and microliths. However, this hall had a very high Gothic roof with a wall on one side nearly 30 ft. in height. I utilized this space for showing the long sequence of cultures—right from the Stone Age up to the 18th century—revealed in our excavations at Nevasa. As far as I know this is one of the few museums in the world, where such a thing has been attempted in a museum. I thought of it in response to frequent questions from laymen, as how we find or account for such a cultural sequence? Constant thinking on these oft-repeated questions, and beholding the high, cliff-like wall in my room at the Deccan College, I decided to convert one of these high walls into a section of the evcavated trench at Nevasa. Combining to display the river section which was nearly 30 ft. high we had before us nearly 70 ft. section. This was reduced proportionally, but while doing so certain layers which were already thin—not more than a foot or so in thickness had to be shown as in the original size. To give an air of authenticity, the soil or earth from the excavated trenches and river sections were used. In each layer models of most representative finds or objects were placed, some objects—like the Roman amphora—had to be fully restored to give an idea to the visitor how this looked when intact. Soon the Deccan College museum became a showpiece for those who knew our work. Several visitors from abroad have photographed this section and were all praise for this display. I do not know how "Museum experts" in India liked the display! However, to me, it satisfied a long-felt want of the public. And this was enough (Pl. 23).

Very soon an opportunity came to have a brand new building for the Department. I so planned it, when it is fully enclosed, open spaces for open-air display, such as houses, megaliths, etc. can be had. There were separate wings for pre-history, proto-history, ancient and medieval history and wall spaces for maps and sections. It is now nearly 20 years, and we had no funds for enlarging the building as planned. Hence the rear sides of the Y remains open, while the open corridors have created some problems of protection, particularly at night.

In the new building only limited space was available for the teachers, chemical laboratory, and museum display. The Nevasa section had to be re-made. This had to be in the centre of the building, for here alone under the dome we could have the maximum height for our walls. The remaining two walls have so far remained blank but they are occasionally used for temporary display. No doubt this makes the things crowded but this is what life is, particularly in India.

Construction of a domical roof in the centre, gave us an eight-cornered room on the ground floor. This was no doubt odd, but here again I was happy that we had large wall spaces for reconstructing the maps of ancient Gujarat and Maharashtra prepared after a detailed study of inscriptional place-names. This is a discipline or a branch of study in which the Deccan College has specialized. These maps have been admired even by savants of ancient history and geography. For nothing like these maps can be found anywhere in India. In fact, if we had funds, and wall spaces, we would recreate similar maps for Rajasthan, Uttar Pradesh, Assam and South India. It may be mentioned that such maps, where both the ancient epigraphical name and the modern name for a place is mentioned, give at a glance both the historical and linguistic history of a place or a region in India.

In this Y-shaped, three-winged building, the rooms on the upper floor have been utilized for displaying our varied finds—from the Stone Age and that too from several stratified sites in India upto the 18th century. At the moment, the north-eastern wing is devoted to the display of prehistory, the south-western wing to protohistory.

Here I must mention that though we got a brand new building in 1961, partly constructed for a good "effective" museum (I dare not say "scientific") display, we had no funds for making new showcases. Hence the new building had to be satisfied with old, out-dated showcases. This was a typical instance of "*Kajodā*" (misfit). Normally we have had such *Kajodās* when in Gujarat a very young boy is married to an old girl or *vice-versa*, at the time of the performance of mass marriages in some communities. Some of my friends from the National Museum and even my younger colleagues disliked the retention of old showcases. But what can one do in this matter ? We never get such large funds, so as to discard (even sell away) the old showcases, and go in for completely new ones. In fact, during the last 20 years we have not been able to purchase more than 5 showcases! Thus in a country like India, England and parts of America (which I had occasion to see), the museum curators have had to do with the "old", antiquated showcases. It is only in Germany, Rome, Yugoslavia and Czechoslovakia, where the war had caused large scale destruction it became possible to have absolutely new buildings which are also fitted with the "latest" type of showcases. In brief, we have had, to do with things as they are, and make the best use of them, as we can, instead of lamenting our lot, and hoping for the moon.

To revert to the display in our museum. In the north-eastern wing, devoted to pure prehistory, are our displayed collections from Gujarat, Maharashtra, Madhya Pradesh, Karnataka—the stone tools, as well as animal fossils and human skeletons from Langhnaj. Depending upon the size and number of the exhibits, all the small wall showcases, as well as the larger showcases, from the old museums have been utilized. It has thus become possible to know at a glance the nature of the stone tools from various regions in India as well as Europe and Australia. A scholar interested in a particular region may get opened the showcase devoted to that region. In case he wants to have an idea of the entire collection, he is taken to the reserve collections where all these have been numbered and stocked in baskets or trays. As far as I know similar facilities are available only in Madras, where all the Foote Collection has been similarly preserved. In addition, there are the thesis of the respective students, or reports or publications. Thus no effort has been spared to make our collections from excavations, as well as explorations, available to students of the subjects.

In the south eastern wing, important finds from our excavations at Nasik, Nevasa, Jorwe, Inamgaon, Ahar, Bagor, and Kaitha and those from Sangankal and Tekkalkota have been exhibited. Here as far as possible only full pots and pieces are displayed. So also the burials from Inamgaon, Nevasa and Tekkalkota (Pls. 24-28).

One recent exhibit is huge pottery kiln from Inamgaon (Pl. 27). This was literally cut out, carefully transported over a difficult terrain, and replaced, more or less in the same position, as it was found.

Naturally addition of all such exhibits to the hall which was already filled up with large showcases makes it overcrowded. But at the moment this is the only way we can show to an interested visitor a 3500 year old large kiln, with its unique "cushions" in their respective places.

In such a croweded hall there cannot be any place for showing the 'Settlement Pattern at Inamgaon,' though in the corridor or gallery outside I have got prepared a small model of the typical castelated granite hill and terrace with a round Neolithic hut on the level ground. A small scale reconstruction of the Navdatoli village is also exhibited here. The settlement pattern at Inamgaon had got to be shown by a measured drawing (painting). Earlier I had got painted at Navdatoli itself the pottery of Navdatoli as well as the reconstruction of the village. Both these were published by the *Illustrated London News*. And this would also be my answer to one of the questions of the planners of this volume. A museum gallery can and should contain drawings and paintings if these alone serve the purpose of explaining a particular feature of our excavation or display in general. In fact, certain features, such as the use of a boomrang or the various steps in making a microlith can be better explained by a drawing. So also the entire range of Navdatoli pottery. I think this inhibition would trouble only large "art" museums, which pride themselves in exhibiting only "originals" !

In our contemplated display of the rock-paintings of Bhimbetka, if we cannot make a small model of a rock-shelter, because it is too expensive to make, we should be satisfied with a large painting. This might take up the entire wall surface of one wing of our building. But our purpose would be served, if we can convey to the visitor the nature of the rock-shelters, and some of their characterstic paintings.

Hovewer, I hope the National Museum will succeed in their plan of making a cave or rock-shelter, and the accompanying paintings. In a real diorama the entire environment—animal as well as vegetational—might be created. But this presupposes a very careful, multi-disciplinary study, as carried out by Prof. de Lumley at Nice, or what Dr. Tucci's team has accomplished at Sahri-Sokhta in Iranian Sistan.

I think enough has been said how we can make our excavations on which the country spends lakhs of rupees more fruitful, and educative. The immediate need is to make all material, irrespective of the agencies which have made these, easily accessible, atleast to students interested in the subject. The present practice of burying the material in the hope of studying it in the future by the excavator is not at all conducive to the growth of knowledge. Naturally, if this suggestion is implemented, then our officers of the ASI will have either to do what I did at the

Deccan College—viz., to keep the finds in their rooms and office and study them in their spare time, and also allow others interested to study them—or they should not undertake any excavation. The real remedy lies in separating the Excavation-Exploration Branch from the Conservation Branch. If none of these suggestions are accepted, one does not know how the excavated material can ever be exhibited (except a few artistic or important ones, as recently done in the Indus Valley or Harappan Exhibition). The most important and immediate need is to see that the excavators—whoever they are—write out the Reports; secondly, have the facility to exhibit the finds so studied. If none of these remedies is possible, one wonders where the excavation finds can be kept, and who will keep them if not the digger himself ! No museum—National or Provincial and University, has either the place or showcases to exhibit these finds. Again, how can any one handle them without any guidance from the excavator ? Indeed these finds will be like orphans. The only way is to make archaeological excavations in India a serious affair, and not a side show. Not only the excavator should write out the Report within a couple of years after the excavation is finished, but he must have a place and facilities to exhibit the finds. All these efforts have to be co-ordinated. That means planning from beginning to end. And even if the archaeologist prepares the report of his excavation, the problem is the cost of publication. For as Martin Biddle, the New Director of the University Museum, University of Pennsylvania writes (*Expedition*, Vol. 28, No. 3, 1978, p. 3) "a properly conducted excavation produces even greater quantity of detailed data. And this increases the cost of publication."

Thus the problem is serious, particularly in India, where there are many excavations, but few attempts at publication. And then the museums are stored of new dated material !!

Suggested Reading

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2. Bedekar, V.H., 'Museum interpretation and transactional analysis', *Journal of Indian Museums*', Vol. XXX-XXXI (1974-75), pp. 18-26.
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5

Adaptation of old museum buildings for modern presentation, with special reference to the newly opened Indian Pre- and Proto-history Gallery at the Prince of Wales Museum, Bombay

SHRIDHAR ANDHARE

Quite often the older museum buildings are based on historical styles, because most of them grew up in a period when there was nothing but the derivative in the architects repertory. This situation was identical all over the world. The first society building called the Pilgrim Hall, at Plymouth, Masschusetts, was a Greek Revival temple of A.D. 1824. Thereafter there is a continuous change in the architectural styles from Greek to Renaissance to Baroque and Racoco in Europe and America, while in India, the vestiges of old victorian architecture dominated most of the buildings as museums, Royal Palaces of Princely families and in certain cases their forts, were and are being used as museums.

For example, the world famous museum buildings such as the British Museum and the Victoria and Albert Museum, London; the Royal-Windsor Castle; the Louvre Museum, Paris; the Metropolitan Museum, New York; Indian Museum, Calcutta. The City Palace Museum of Udaipur and Jaipur, the Prince of Wales Museum, Bombay and many others housing priceless collections have themselves become antiques. To maintain and keep them fit for museum purpose has become one of the main functions of the museum persons. Not all buildings can be adopted as Period Rooms in India as they are already being denude of their treasures from inside. What is left is of lesser importance from the museum point of view.

These Neo-Classical buildings have features of ancient monuments peculiarly combined in a rigid symmetrical order. They have long flights of approaching steps, porticos with colossal orders, colonnaded facades with massive entablatures, ponderous vaults, domed rotundas and great pavilions, all constructed in heavy masonry; with thick-walls, large piers and arches, more columns, entablatures and pediments inside and out, coffered ceilings with production of ornamental details. This stylistic paraphernalia seriously hampers the museum functioning in the changing world. Like everywhere else in the world, in India too, on one hand the buildings as they are, have to be preserved for posterity while on the other, their conservation and restoration-costs and the technical-know how has to be procured. Their main drawbacks like leading ceilings and domes, sinking floors, falling ornamentation of plaster, maintenance of wooden floorings and other fixtures, white-washing, maintenance of stair-cases and ornamentation in tropical climatic conditions poses serious problems for constant care. All this requires large finance which is rather difficult to obtain in our country, specially for museums which are at the lowest ladder of priorities.

The Prince of Wales Museum, Bombay, is an ideal example of such problems. This impressive domed building was designed by an English architect, called Mr. Wittet, in 1905 to commemorate the visit of the Prince of Wales in 1906. The main block, first of the three, was completed in 1911 in a style called the Indo-Saracenic, a curious mixture of Indo-Muslim architecture. The main octagonal axial block is of a monumental proportion having a domed rotunda of about 75′ inside. The vast central space, known as the Key Gallery has carved decorative columns that rise up to the first floor. The intermittant mezzanine floor is approached by a short flight of marble steps leading to a long rectangular gallery space where the gallery under discussion has been reorganised.

The first floor octangonal gallery has an excellent Maratha style wood work in dark mohagani colour extending right upto the second floor, providing a parapet there and cusped arches supported on columns and a baluster, on the first floor giving it a look of a wooden balcony to look down. This wood work specially purchased for Rs. 250/- from a Wade (an old Maratha style house) from Nasik and brought here to be incorporated in the existing design of Mr. Wittet (Pl. 29).

The building is a curious mixture of Hindu-Muslim motifs. There are large archways everywhere of muslim design which are repeated all over in different proportions. The walls are thick and very high ceilings. During the course of reorganization initially, these large galleries were adapted by having a separate floor which is the present first floor. Two galleries, one for Indian miniatures and the other for Nepal-Tibet have been reorganised. In the third place, now is library. The large marble octagonal foyer on the ground floor has 8 columns rising up to the first floor. They come in the way of showcases and obstruct the vision. Although these newly designed showcases are largest, *i.e.* 12′×6′ in size, they look meek and out of proportion to the high ceiling of the hall. Due to thick masonary walls erection of frame work for such large show cases becomes difficult, especially to make them stand on a minimum support.

In case of large halls such as the Indian Painting Gallery and the Nepal-Tibet gallery on the 1st floor, artifical walls made of plywood had to be erected to divide the space for build in cases. In doing so the gaps left in between the partition and the walls of the building, having many windows open for ventilation, created security hazards as there is space of at least 1′×6″, and visitors can hide there with the intention of theaving. There has been such an instance once in these galleries.

Large windows which form a part of the building facade cast excessive light all day long in the Armour gallery. Due to very large size it is impossible to curtain these windows, with the result that objects and background colours fade quickly and the problem of reflection cannot be avoided.

Long and narrow verandahs where Decorative Arts gallery and Nepal Extention gallery are located have big archways on one side and windows on the other. Therefore, the intermittant spaces are filled with appropriate built-in showcases with inclined glass to avoid reflection. Here again is the difficulty of regulating visitors due to small and narrow gallery space and ventilation is provided with ceiling fans.

On the second floor Circle Gallery, most of the internal ornamentation begins, creating recesses and arches. On all sides of the rectangular wall area on which the dome rests are at least three arches or doors. Out of them one is a large archway. There is very little display area here which is utilized by keeping a showcase in a niche or other free standing objects in corners. Due to narrow exhibition and walking area barricades or fencing of any kind to protect exhibits from touching is impractical. Visitors touch objects constantly and some portions of the exhibits get rubbed off.

In spite of these plus and minus points it falls to the lot of museum personnel to adapt and utilize them for modern presentation. To build a modern building according to the specified requirement of a particular museum is a simple job, but to utilize, adopt, modify and erect new antifacts, cases, displays, etc. becomes more thought provoking and difficult at times to achieve a stylistic unity and neighbourliness to the features of the structure. Modern showcases look timid and out of place in proportion to the high ceilings and vaulted roofs. In such buildings there are more negative spaces than wall surfaces, more arches than walls, large columns and piers hamper the view of showcases from distance and many such hindrances. Large central staircases create difficulty in regulating the visitors and proper routing cannot be obtained. Walking through long and narrow corridors on the same level causes museum fatigue.

Yet the biggest hazard these days is that of security. It is expensive, and at times impractical, to secure all the openings—doors, windows, and ventilators with thick iron grills. This grilling differs widely with the building hardware of the period and spoils the aesthetics of the building, but it has now-a-days become one of the musts of any Indian museum. Sparecely located halls, galleries, verandahs create problems for guarding day and night.

'Necessity is the mother of invention'. Unless we are faced with problems we do not seek to invent solutions. This is perhaps the only motto for all the museum persons who are engaged in adaptation of old buildings.

Let us take the case of the newly opened Pre- and Proto-history gallery in the Prince of Wales museum. The objective behind putting this gallery was two-fold. Firstly, our Indus valley material which was displayed in an old fashioned manner, secondly, there was an imminent need to reorganise the presentation in such a way that it caught the visitors eye and thought both. But then it had to be done in such a way that there was no over dose of anything.

It was, therefore, decided to plan a Pre- and Proto-history gallery in the available space, a rectangular gallery of about 65′×24′ (approx.) on the mezzanine floor. This space was previously used for other purpose like storage, work-room, etc. Thereafter, followed a series of conferrences between the Director, and Curators to discuss various aspects such as the grouping of objects. Themes, material available in store, and so on. At this stage we took notice of the Pre-evaluation of an earlier exhibition called the Dawn of Civilization in Maharashtra. A number of questionanires demanded that there should also be shown the evolution of man in addition to the Pre- and Proto-historic objects. Therefore we incorporated visuals of it on the wall along with the other display.

A rough design was made, making use of the series of 6 fixed showcases on wall starting from the left, keeping in view the left hand circuit followed in India. These showcases had glass lids openable with top hinges, and the question was whether to dismantle these and create new ones or adapt the old ones. Their depth of approx. 2′ was sufficient enough for the display of stone tools. Since these glass lids could not be dispensed with, we decided to cover them with thin plywood and made intermittant openings of desired sizes according to objects to be displayed and made rectangular box type showcases inside (Pl. 30) with glass in front, to house stone tools, namely the early Stone age, middle Stone age and the Neolithic period with different yet coherent colour schemes for background and label matter.

In all these cases a legitimate contrast is maintained between the colour of objects and the general background. The interior cubicles are made of marine plywood, pre-coated with antitermite solution. One inch aluminium angle is run on the inner edges of ply as a frame to give these cases a look of a finished product. Thus, the old rigid show cases were suitably and functionally adapted for stone tool cases. The finish and a total desired effect after completion of a presentation has a particular value somewhere in the mind of a curator-designer. No contract jobs executed by howsoever reputed "designers" or commercial agencies can get any where near to the jobs undertaken departmentally under constant supervision of the Curatorial Staff. The outside jobs lack what is known as subject and personal involvement.

Today, presentation has become a multi—discipline effort within the museum involving the Curator, the Educationalist and the display man. First, the curator for providing scholarly knowledge of the subject and aim of the exhibition, second, the designer for appropriate design, colour and texture, and the third, the educationalist, who would balance the scholarly and popular aspect equally to make the presentation complete and palatable. It has been observed that such thoughtful displays and presentations have borne fruits in many cases. On the other hand the non-museum professionals and known gallery designers have failed miserably in a number of instances. Their artistic and visual fantasys and ideas of colour schemes have gone diverse in relation to the function, requirement and taste of a gallery. A museum Curator who is wellversed with his collection, its artistic and scholarly merit, its importance and popular appeal with the educational potent in mind; its limitations of material such as wood, glass, etc. and above all the availability of funds and daily or seasonal average of visitors, is the most suitable person to design a gallery. Quite often the theoretical knowledge of an outside professional-designer prima facie remains on paper and fails when brought in reality. Many times their attempts to please and educate the Curator or the Director of museum by mere fantastic graphic ability on paper hold promise, but that is not all. It must always be remembered that in museum presentation, aesthetics cannot overpower function. Flashy display with dramatic lighting with showcases, nothing short of modern sculpture with protruding angles and corners not only become impractical for execution but lose their narrative content.

As remarked by late Sir Mortimer Wheeler, "Indian museums tell outsiders about India and Indians about themselves". Indian visitor is accustomed to various habits and ways of life, he has a certain expectation from our museum whereas in return we also expect something from him. We want him to take something more with him than the idea of awe inspiring *Ajayabghar*. In the presentation of these pre-historic drab objects, constant effort has been made to make the object speak for themselves. The stone tools are displayed with their usage drawn by their sides as well as photographs of find and factory sites are displayed, not separately, but have been incorporated in the general composition of the particular case. In certain cases these bromides were tinted lightly with photographic colour to give relief.

In the same gallery a small portion has been left for Assyrian Palace Reliefs which were embeded in cement from the beginning. Due to their fragile quality it was decided to exhibit them as they were. Therefore, to make them more prominent, use of blackboard black flat paint was made. These flat reliefs which had somewhat marble like finish and colour, came out distinctly against the black. To get the maximum effect of the low reliefs we used top and side light spots conceiled by a thick pelmet. Other supplimentary material was used covering them with glass. A special type of truf filled with gravels is put at the base lest touching is avoided. This gallery was separated from the Pre- and Proto-history gallery by a period arch of the Assyrian Palaces.

Due to the division of an artificial partition wall, a corner was formed which was used for display of Indus Valley Pottery. This being the beginning of the Indus Culture a map showing different sities and an explanatory label is put at the start. This corner case is designed in the shape of an equilateral triangle with an opening of 6′×4′ glass, which was used horizontally this time. The inside arrangement is stepped, with the tallest pieces at the top most level while groups of pottery-jars, pots, etc., are placed on the steps. This arrangement of stepped pedestals automatically provides background to the small jars. The text matter is provided inside on the body of the background. The height of the show case is about 2′ from the ground so that children can see carefully.

As the visitor turns to the right after seeing this case, there is a case for plaster casts in front and to the right is a screen case to show Indus Valley Jewellery. These two showcases are by and large identical except for their internal display. The case showing Indus Jewellery is again of a unique nature. This case not only provides clear view of the articles placed in transparent horizontal shelves but also allows a complete view of the rest of the gallery, from this corner to the guard who is on duty through the transparent glass and gives a feeling of openness. Display of necklaces of semi-precious stones, terracottas, etc., which is usually done on horizontal shelfs, has been done with a verticle glass background. This double sided sleek screen case projects 6″ on either side of a 4″ screen which is a main dividing factor in the gallery providing a desired routing of the visitor (See Fig. 18). The rest of this screen is of about 2′ wide where two built-in cases, one for Religion and the other for inlay material are inset. These two cases in the gallery are only lined with textile. Since the number of objects was limited and small in size, proper isolation, minimum objects in a showcase and close observation could be achieved. In case of Indus Valley seals which are difficult to perceive clearly, bromides blown to a large size are placed side by side. In the event of a large window in front of these screen cases, reflection has been avoided by keeping their glass lids at an angle which automatically pushes the case inside and gives a little hand rest. Near the seals case is a verticle screen which has a large number of tinted blow ups of seals mounted on ply to give them a kind of relief.

The next showcase is devoted to Tools, Weapons, Games and Toys (Pl. 31). This case is unique in many ways : (i) it houses a coherant group; (ii) it is well composed, colour and object wise; and (iii) it is very simple and effective. Three lids of 6′x4′ size are attached to make half of a hexagone along the wall. The frame work is grauted in the wall, leaving (approx.) 1′ solids at the base and top. Concealed fluorescent lighting is provided from top with ground glass resting on an aluminum angle lined with felt to make it dust proof. The hexagonal shape could be achieved by mere planning the edges of the lids for joining. While attempting all this the finish of the renovation and joinery and eye level had to be looked after carefully. The same colour scheme of olive green, cream and one light shade of green has been achieved by adding different proportions of stainers to the plastic white shade. The large verticle shape of the 6′x4′ glass gives wider display inside and outside.

Then follows an L shaped unit of Trade Contacts (Pl. 32) and food habits. This is yet another experiment tried perhaps first time in India. The food-habit case is much simpler to understand but in the trade-contacts presentation mutidisciplined effort is obvious. Books, publications, illustrations gave us the historical and factual information, but to incorporate the maximum of it in these two cases was a thought provoking the challenging endeavour. Firstly, we decided to give a map of India extending right upto the Mesopotomian region on the lower level lightly demarked so as to give a suggestion where important Indus Valley cities could be located. Then, the famous discovery of a naval dockyard of Lothal in Gujarat could be incorporated in a bromide form, then the mode of transport, the boat and the bullockcart were used. The actual trade contact rout and available seals were located at proper positions; in certain cases with replicas or with bromides. The weights and measures were placed on the lowest level of the case.

The other half of this showcase was used for painted pottery sherds. The sherds being in any irregular shape and size pose a problem to display. In this case firstly we put up a blow up of the famous painted pot from Harappa and placed other original pot-sherds around it. In both cases write up in English and Hindi were written neatly at proper places.

The next group that follows is that of the storage jars of the Indus Valley. Their silhouettes are of great significance as their sizes. A corner in the extreme right of the gallery was used for them as they possibly could not have been placed in a glass showcase. A selection was made and was placed at different heights on wooden and specially prepared pedastals of tree trunks intact with their skin and pattern to give a different texture. For explaining their purpose and position, a large painting is put up at the back. This painting has given an effect of depth to the showcase. Two little slit windows on the left cast sidelight on the pots.

Then the diorama case which was prepared earlier for exhibiting the Great Bath and the Mohenjodaro sites in a three dimensional panoramic way is placed in the centre, to provide space to view it from a distance. This exhibit is very popular not only among the school children but also among the adults because of its theme.

The subsequent groups of showcases that follow depict later Chalcolithic material discovered lately from Inamgaon, and other which is represented in extremely well made plaster casts (Pls. 33-34). In the first case where we show the Malwa Culture, the entire area of display is treated as a composition using all the cannons of a pictorial graphic design. A thin wooden strip separates items in different rectangles, each one being indespensable. This presentation is by far the most complete in all respects. The objects are suitably isolated in different rectangles of sober colours, the supplimentary material forming a coherant whole and the paraphernalia of a pedestal is completely eliminated. A thick grass is inserted in between two strips of wood to hold it as a shelf and objects are placed over it. Similar treatment is given to subsequent three cases. In the last but one showcase, which shows the model of a kiln existing niche in an old lift. It has been covered with ply to get an extra depth. The back has been used for a photograph of the actual kiln, some important painted pollery sherds and the write up. In the foreground a scale model of the Inamgaon kiln has been fitted. Similarly the next case has been utilized to show child burial in the clay and a line drawing of the township on the wall of the same case from inside.

The next group is of three new showcases designed to exhibit Megalithic Culture. The material consisted mostly of burial pots and pans with lids, weapons, hooks and some gold ornaments obtained from Mahanzani, a site near Nagpur. The cases are in a descending order. The backs being one single background where as the ground goes on stepping down where pots are put. On the background gold and horse ornaments have been given prominance. In this way the monotony of the same height and case levels has been broken.

A special feature of the gallery is a verticle wooden sereen of natural colour with verticle planks which runs from the entrance dividing the gallery into two (Fig. 9) This is an aid for routing of visitors.

Thus, in this gallery a large numbers of experiments have been made for the first time which have been possible only because of the interdisciplinary discussions.

Suggested Reading

1. Dwivedi, V.P., Adapting a textile gallery for Pre- Columbian, Art *Journal of Indian Museums*, Vol. XXI-XXIV (1965-68), pp. 27-30.

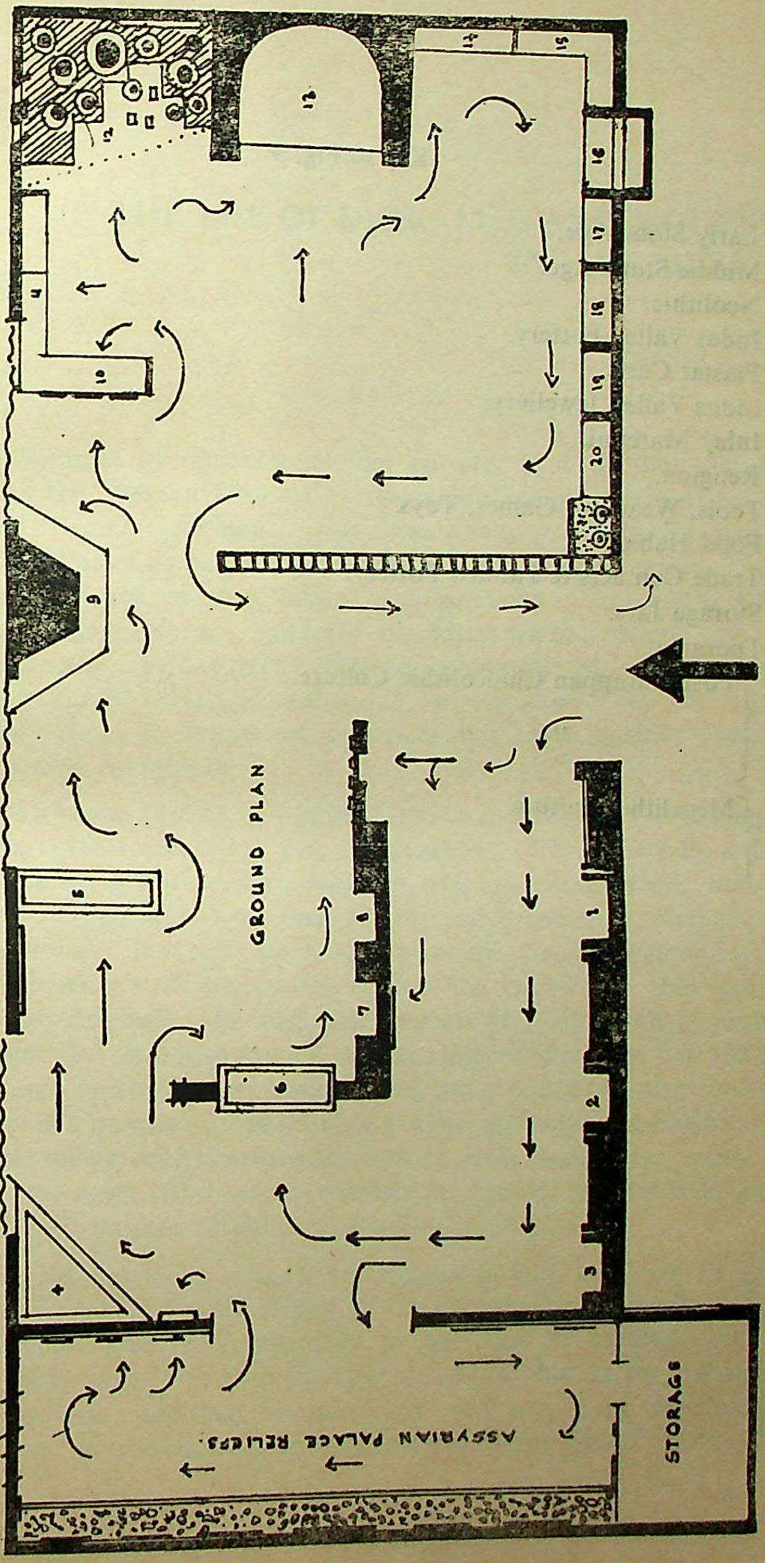
INDIAN PRE & PROTOHISTORY GALLERY
GROUND PLAN
ASSYRIAN PALACE RELIEFS
STORAGE

Fig. 9

Key to Fig. 9

1. Early Stone Age.
2. Middle Stone Age.
3. Neolithic.
4. Indus Valley Pottery.
5. Plastar Casts.
6. Indus Valley Jewellery.
7. Inlay Material.
8. Religion.
9. Tools, Weapons, Games, Toys.
10. Food Habits.
11. Trade Contacts & Painted Pottery.
12. Storage Jars.
13. Diorama.
14. Post Harappan Chalcolithic Culture.
15. ,,
16. ,,
17. ,,
18. Megalithic Culture.
19. ,,
20. ,,

6

THE USE OF DIORAMAS AND MODELS IN INDIAN MUSEUMS

SHASHI ASTHANA

To use the dioramas in museums or not to use, is a question which can be compared with the 'Sanatan Dharma' propogated 'Sakara Brahma' or 'Arya-Samaj' advocated 'Nirakara Brahma'. Only those who have higher I.Q. can understand the abstract ideas of all pervading God sung by the Arya-Samajis. All others worship Ram or Krishna in their human manifestations. They find it easier to visualise them in human form. Similarly the ideas which cannot be easily explained with lengthy abstract labels can be communicated with dioramas or models. In this paper we will try to analyse the various arguments put forth by differing opinions—those in favour of dioramas and those against them and shall try to find a working solution.

The first group argues that by and large dioramas are childish, misleading and not faithful to the environment which they try to project. They generally are made of real but dried up flora, fauna and models of plaster of paris, plastic and resin. After a year or two they start loosing their colours and become very shabby. They no longer communicate the real meaning which the curators wanted to convey through them. Sometimes life size models confuse the visitors as they are often thought to be the originals. In such cases the use of photographs is considered better than the models. It is also argued that we impose ourselves on the forms of the models and create things about which we are not ourselves sure. For example, we prepare a diorama for prehistoric period showing a prehistoric man. Sometimes he is shown with barbarous features and sometimes with benevolent features. We don't know exactly how the pre-historic man looked like. In such cases visitor gets confused or he forms a wrong opinion.

There is a considerable truth in these arguments but they can not be applied universally. These ideas are still strong in the air and curators hesitate in using dioramas for their museum display, especially in Art and Archaeology museums. But this view needs some revision in the light of the fact that on the one hand no museum except for those more than a century old, can ever hope to collect the originals to fill up all the lacunae in the historical perspective of art or cultural

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history and on the other, country to country educational standards vary and the level of understanding differ from one age group to another.

With the changing role of museums in cultural and educational spheres, it is now increasingly realized that our first duty is to make the museums more attractive and more popular in their social surroundings. Attractive and educative presentation certainly bring more people to the museum. The judicious use of dioramas and models, it has been observed, helps a museum to serve the community more effectively than sometimes realized, particularly in the developing countries where educational standards are not highly developed.

Dioramas are sometimes needed to explain the technical and functional aspects of the objects which are often obscure because the objects are now obselete. Remote past is often beyond the common man's visualisation.

The Indian museums have reached at the point of saturation as far as acquisitions are concerned. Only three decades ago, it was easy for Indian museums to obtain art objects of various regions, types and periods but with the growth of the cultural consciousness and with the museum movement, many new museums have come into existence. Now the museums are more in number than the groups of antiquities required to present the connected history of any particular aspect of peoples' history. It is not possible for small museums to have all types of objects to represent all phases of the history covered under their scope. In this situation the curators have no other choice but to fill the gaps with models and dioramas.

Unique art pieces attract the museum curators from all states but every museum can't have them as they are very few and their price are often prohibitive. In such cases models of those unique art pieces can remove this lacuna. This purpose cannot be achieved by photographs. However good a photograph may be it can hardly replace the three diamensional models.

Every year we hear of museum thefts. It is becoming very difficult for small museums to maintain adequate security, especially for those museums which are in the interiors, *e.g.* site-museums under A.S.I. or rural museums. Such museums should, therefore, take the obvious advantage of dioramas and models as they serve the basic purpose without any risk, although not without reservations. But that will be of little consequence when compared with the safety of the originals.

Mobile exhibitions, generally arranged in museo-buses, also need this kind of display. These exhibitions are usually taken to the schools, factories and villages. It is very difficult to keep the security tight for these museo-buses as they are not having arm-guards and are accompanied only by one or two persons. Sometimes they make night halts also in the villages. Even in the museum campus the bus is not safe if it is parked in open-air areas. To play safe, a curator should have the models of originals and dioramas to arrange them in the bus. In this way the risk can be minimised and a chronologically interesting show can be arranged.

All these factors go a long way to justify the use of dioramas and models in our museums. But at the same time one should be cautious in their use. In this context one significant point to be borne in mind is that not too many things should be clustered in a diorama otherwise it will present a chaotic condition and will not reflect the impression that the curator wants to create.

At this point a question arises as which category of museums use the dioramas most ? So far their use is more or less limited to the Natural History, Anthropology and Science and Technology museums (Pls. 35-37). It is true that because of their subject matter the utility of dioramas is more in these than in other kinds of museums. However, our contention is that they can profitably be used in art and archaeology museums as well. The recently opened National Museum of Natural History, New Delhi, is gaining popularity day by day and is attracting more people than other museums do. Why is it so ? Firstly, this museums has something new for the visitors as there are not many Natural History museums in our country. Secondly, its display is quite impressive and that brings a visitor again and again with friends and relatives. Dioramas, models and original objects have been used together in a very balanced and judicious manner. Their composition is very attractive. The Entrance Room of this museum presents 'The Solar System' with the help of light, dioramas and background commentary. The next room has displayed a fossil. For a lay men it is difficult to understand what a fossil is. However, if he goes to this museum and sees fossils in their natural environment, which has been created with the help of dioramas, he understands it quickly and is likely not to forget throughout his life. It certainly arouses curiosity among the children and creates everlasting impression on their minds.

India is a big country and is having different types of climate areas. It is, however, very difficult for a man to visit all these climate zones. Then how to impart knowledge of this to a common man ? The Natural History museum is the place where one can see all these areas side by side and distinguish them. After seeing the desert titled show-case, one feels for a while that he is standing in the midst of a desert. In the same way the 'ocean' with its distinct flora and fauna, can be seen quite intimately in this museum. All this has been possible only with the help of a good combination of dioramas, models and original objects. Almost all the major countries of the world are having Natural History museums and dioramas are a great help to them in organising their exhibitions.

The other category of museums which use the dioramas most are the Science and Technology museums. Science is advancing so fast that every year new discoveries and products are coming up. After a decade, things become old in their field and they become the objects of Science Museums. Museums generally are not big enough to accomodate the originals so the scale models are made and displayed in galleries.

The Birla Museum, Pilani, represents this category. It has beautiful dioramas and models representing different themes. A few of them are listed below.

One of its showcases presents 'The Transport Through the Ages' with the help of animated dioramas and scale-models. They are arranged in the chronological order so that the prehistoric transport system comes first and the most modern transport system comes last to the view of an onlooker.

Another showcase presents "The Development of Car Industry". Different types of cars are represented by their scale-models and arranged by the years of their production. When one reaches that showcase, the person-in-charge switches it on and all the cars start moving. The visitors get fascinated by these types of show cases. The element of thrill is also involved in it and that is the real asset of the animated models arranged in dioramas.

Similarly, the 'Landing on Moon' showcase has also used a very attractive diorama. The land on the moon with all its undulating rocky surface having big craters has been created in the showcase in a faithful manner. The space around the stars is also shown in the natural manner. The landing of the space-craft and the men on the moon is shown systemetically. This type of diorama creates a thrill in the visitor's mind and he stays there for the full operation of the electronically run exhibits. Even if a person belongs to the rural area, it is easier for him to understand the meaning of the exihibits through such dioramas.

For-art and archaeology museums the general view is that they do not need models and dioramas as the antiquities, including sculptures, bronzes, terracottas, pottery, textile, etc., speak for themselves. Upto certain extent it is correct. However, all the visitors coming to the museum are not art-minded and they can not admire the art exhibits in isolation. For such visitors a limited use of dioramas is recommended in these museums too. Mankind has covered a long span of time and has left behind a large history. In the age of science, when most of the things are done electronically, it is very hard for anybody to visualise the crude technology of the 'Prehistoric Period'. Suppose somebody wants to organise the 'Prehistory Gallery', there can be two types of display : (1) Display of the original objects—stone tools, etc., in a chronological order and labelling them with short notes; (2) Preparation of a diorama in the background and showing the use of the prehistoric tools in hunting animals and cutting meat into pieces. The diorama will include the contemporary flora and fauna also. In yet another diorama the everyday life of the prehistoric men can also be presented. The original objects should be displayed in the foreground so that the focus of the visitor's attention is on the originals. In the first instance noted above the tools will look abstract and the visitor may not enjoy the exhibits, but in the second type of showcase the person is likely to enjoy looking at the objects in their colourful surroundings and will not forget their utility. It is, therefore, obvious that the constant process of cultural development of mankind can be shown to the people through this kind of display in a more interesting manner. The museum in Oriental Institute, Chicago, has a gallery for the Near Eastern Art. It has made the dioramas of different cultures of Mesopotamia and their material culture is also displayed in the fore-ground making it easier to grasp the contents.

The majority of India's population lives in the villages which are still not fully literate. Museums can play an important role in rural education. With a little effort museums can be set up in the rural areas. The job should be assigned to the village authorities themselves so that they could feel that it is their institution. Plaster casts of various important art pieces, dioramas to explain the abstract ideas, photographs of the monuments, etc., may help a great deal in establishing this type of museums. Plaster casts and photographs can be obtained from different bigger urban museums and dioramas could be made by the villagers themselves with the help of hereditary artists, such as *kumhar* (potter), *badai* (wood-carver), *lohar* (blacksmith), etc. The ancient and other objects can be collected through exploration conducted by the villagers themselves under the guidence of urban museums. Expert advice may be sought from the established museums, nearby degree colleges, or universities. For these museums there will not be any security problem even if these objects are displayed in *panchayat-ghar* or school as the valuables are not housed there. The institution can be quite popular in that area.

India is still nestling a large number of tribes but so called 'development' is making them disappear very fast. After a few decades their culture will be seen only in the museums in urban areas or abroad and not in the tribal areas themselves. There are not many tribal museums in the country. The material culture of these tribals should, therefore, be preserved in the museums. With the help of the dioramas and models, the methods of using differing objects, the surrounding areas of the habitations, flora and fauna of the region, dress styles, hair styles, ornaments, etc., which are and have been in vogue can be preserved in a real meaningful way for the posterity.

The Museum of Man, London, has various tribal cultures on show. The moment one walks in the gallery one feels that he or she is in a tribal area. The visitors walk through the tribal camps, tribal markets, streets and settlements feeling actual participation. The music adds to the creation of the tribal atmosphere. We hope that the proposed Museum of Man at Bhopal will adopt similar suitable techniques to serve this purpose. It may be mentioned here that many old museums such as the Indian Museum, Calcutta; the State Museum, Madras and the Baroda Museum and Picture Gallery, Baroda, have tried to use dioramas to depict the tribal life quite successfully. However, we need many more such museums in different parts of the country.

Next comes the school and college museums where the use of the models and dioramas have gained popularity. These museums can be organised by the teachers and students with the help of dioramas, models, photographs and charts. Temporary exhibitions should also be set up from time to time based upon the school curriculum. If one exhibition is assigned to one class, the other should be organised by the other class. This type of organizations will create a healthy competitive feeling amongst the school boys. It is understood that the University Grants Commission also gives financial assistance to this type of museums in the colleges and universities. The universities at Delhi and Chandigarh have good museums attached to the Anthropology Departments while the universities of Allahabad, Varanasi, Patna, etc., have good museums of art and archaeology.

Perhaps the most important museum, which our country lacks, is the 'Museum of Monuments'. The scope of such museum ranges from the caves to the palaces and includes temples, mosques, churches, etc. They are spread over the entire country. India is such a big country that it is difficult for a person to visit each and every monument. Normally we satisfy ourselves by seeing the slides and photographs. For a country like India, the 'Museum of Monuments' is essential where a man can have a look at all the types of architecture under one single roof. Large size models can be used for this purpose. This museum will cater to the interest of the visitors and students alike. The 'Museum of Monuments' at Paris has set up the facades of important Gothic Churches in actual sizes. For many other monuments it has prepared large number of scale models. In the Indian context, reconstruction of prehistoric caves, Ajanta caves, etc. can add to its attraction. Efforts on a very small scale, have been made in the Trichur Museum in displaying wooden models of famous south Indian temples, which is quite instructive. In the Lucknow University Museum a few models of Sanchi *Stupa*, Ajanta cave and of other monuments could be seen. In the National Museum, New Delhi, a original size bronze cast of Junagarh Rock Edict of Asoka is displayed and efforts are being made to reconstruct a Ajanta cave. But these humble efforts will not serve the purpose and a 'National Museum of Monuments' at New Delhi is a long felt desideratum.

This short review, it is hoped, will bring home the fact that judicious use of dioramas can play an important role in our presentation techniques, particulary when they are animated. It is through the thrill of movement that they have the inherent capacity to make people stop for a while and look at the exhibits again and again with a certain amount of curiosity. In this process the visitor will enjoy and learn together. And that is what a museum curator ultimately aims at.

Suggested Reading

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7

THE ETHNOGRAPHICAL COLLECTIONS AND THEIR DISPLAY : SOME PRACTICAL SUGGESTONS

JAYSHREE CHOWDHERY

During the last century science has made considerable strides in different fields of human activities. Due to the present pace of modernization many of the past practices, technical know-how, beliefs and customs are gradually being replaced by new conventions and notions. Each human activity is not possible to be recorded and the material relics of the past societies are disappearing fast once for all. This is not the case with the cultures of the bygone days only but is also true with the material relics of the recent past. Furthermore, the original form of culture of most of the tribal groups in India is slowly on the verge of extinction due to the impact of industrialization, process of urbanization and modernization. Material relics, belonging to the past human societies or of the tribal groups, are, in fact, the positive manifestations of the creative genius of the human societies. Each of the object possesses educative value through which the people of the present and future generations can derive knowledge about the different spheres of human creativity. It is, therefore, prime need of the hour to collect the material relics of the past as well as of the tribes, to the extent possible. The present paper aims at discussing the presentation techniques adopted in the anthropological museums in India and outlines certain observations for their improvement.

The acquisition of ethnographical material presents a lot of difficulties. They are acquired either through the field surveys or donations and purchase. While on field surveys, a curator is primarily concerned with the collection of as many objects as possible. He cannot afford to be selective on such missions nor at the time of receiving donations but while purchasing he can go in for such objects which are required to fill in the gaps of particular theme in his collection. The greatest difficulty, with which a collector is confronted, is the language. Neither Hindi nor English is understood by most of the tribal population in India. In such situation one cannot succeed in his mission unless he takes the assistance of an interpreter who has to be usually a local person. A sort of intimate relationship has to be established with the tribals through the help of such interpreter. To develop the relationship the persons engaged in the field survey have to become friendly in their dealings and are required to stay in the area for a considerable period and undergo all sorts of hardships expected in the tribal/jungle life. The ethnographical specimens, which are generally collected, consist of dresses, head-gears, foot-wears, masks, art objects, jewellery, objects relating to the magical feats, entertainment, food-habits, hunting and fishing, agriculture, etc. The photographs to supplement the collection are also acquired.

The display of ethnographical objects poses more problems than that of other subjects like prehistory, sculptures, paintings or coins, etc. The material relics of the prehistoric societies are found only in the form of stone-tools which could survive the ravages of time to this day. While displaying the prehistoric objects it is usually the stone tool which figures in the exhibition. Other aspects connected with the way of life such as the way of hunting, climatic conditions, nature of dwellings, etc., are either based on imaginative reconstruction or on the circumstantial evidence drawn from the scientific investigations. These reconstructions are put on show just to add flesh and blood to the subject. In the case of ethnographic materials, one can collect all the original types of objects in the day-to-day use of the tribals living in the Indian sub-continent through which one can envision the entire gamut of the material life of a particular tribe or group. As per the established norms, the display of the ethnographic objects should be done either according to evolution, region, tribe, object or material-wise. In the case of ethnographical objects, region-wise or tribe-wise display may prove more meaningful than the object or material-wise display (Pl. 39). It is through tangible objects that the changes taken place in their culture and technology, economy, norms and values, can be exhibited best. How did their technology develope from simple to complex, and subsequently changed entirely, and how acculturation took place, can well be studied from a properly displayed museum. In many of the anthropological museums of India it has been observed that the objects have been displayed object-wise and material-wise (Pl. 38). For instance, the way of wearing dresses of the tribals of India or the traditional costumes of India, has been shown either with the help of wire dummies or life-size mankin. This sort of display gives an idea of the types of dresses worn by the different tribal women or men of India or the people of the different zones. Similarly, the head-dresses or foot-wears, representing various tribal and traditional styles, are put on public view in a vertical pillar showcase. The decorative art objects consisting of textiles, toys, wood-carvings, glass-wares, utensils, etc., also find place in separate show-cases. Obviously in such a display emphasis seems to be more on showing the selected items of different tribal groups within the available space for exhibition. But then the visitor is completely bewildered and is not able to form any idea about a particular tribe or group of tribals as the exhibits show only a partial view. This display, however, provide material for comparative study of a particular item of tribes. In doing so the set norms, *i.e.* evolution-wise, region-wise, material-wise or tribe-wise are lost sight of. While exhibiting the objects one should follow only one pattern at a time. If all the set patterns are tried at a time the coherence in the exhibition of the objects will be lost and the display will prove least attractive.

Before planning an exhibition of the ethnographical material, the curator must ensure that the material at his disposal is enough so as to present a complete picture of the way of life of a particular tribe. If some items of the theme, he has chosen to display, are missing, they should be shown with the help of photographs. For instance, if the way of life of a tribe like Bhil has to be shown, the objects to be put on show should include each aspect of their cultural life such as economical, magical, ritual, their way of eating, drinking and smoking, clothing and adornments, etc. We know for certain that in tribal life drinking and smoking form an important aspect of daily life. If material objects connected with drinking and smoking are not available, the photographs showing the types of smoking pipes and ways of filling tobacco in them, and people actually smoking in pipes, etc. should be displayed. The display of photographs in such cases becomes absolutely necessary to present the full view of the material life.

In some cases, when actual use of certain curious items, such as some magical instruments, are to be shown, the photographs come handy and make the exhibition more attractive. But at the same time too many photographs should be avoided.

Tribals live throughout India; each group having its own characteristics. Most commonly known are : Naga, Bhil, Gond, Ho, Oranon, Chenchu, Khasi, Orge, Santhal Jaunsari, Kadar, Toda, Asur, Mishmi, Monpa, etc. No museum in India can claim to have specimens of all the tribals in India. Most of the anthropological museums possess regional ethnographical materials. Supposing a museum possesses specimens of three or four different tribal groups, the curator in that case should select only two three representative tribes of that region and put on show all the materials depicting the way of life side by side so that a visitor to the gallery may get full picture about a particular tribe and be in a position to make a comperative study of the two different tribal groups of the region. While displaying the materials the use of audio-visual aids such as models, dioramas and photographs. etc., is a must. The blown up photographs of the natural settings depicting mountains, forests, wells and the types of dwellings will lend additional charm to the method of presentation and make the whole thing quite amusing and easy to comprehend. These photographs have additional value. The traits of culture are very much conditioned by the natural environment which plays a vital role in the variation of economy and the way of life of the human society. The use of wire-dummies in preference to 'plaster of Paris' statues has been in practice in many of the museums. The reason behind it that the wire-dummies are easy to handle in the course of actual display and the emphasis is more on the costumes and not on the facial features of a particular tribe. In such kind of display sufficient space is required. The availability of required space for display is really a vexing problem with the museum curators. If the space available is not enough to present all the materials in that case only the representative specimens can be put on show and for the rest of the things the coloured transparencies or the photographs depicting the complete view of cultural life of the tribe can be kept inside the gallery. Those interested in knowing more can see the slides by pressing the button. Such an arrangement is bound to be more instructive, and amusing and will give the visitors a sense of participation, specially to the young visitors.

The presentation should be such that the visitor to the gallery should stay there for a short while and feel like coming to the gallery time and again. A detailed introductory label, a map showing the tribes and regions represented in the gallery, as wellas individual labels are must for a good display (Pl.40). Taped-music, to be played with his stepping of the visitor near the showcase will not only help create the same atmosphere but will provide additional charm to the display. If possible, occasional live performances of dance and/or music by the tribal-groups, bound to be popular can be arranged at a nominal cost. Though the requirements of display differ from museum to museum, the above mentioned guidelines are sure to be useful for ethnographical museums, if put to use in a judicious way.

Suggested Reading

1. Aiyappan, A., The problem of the illiterate visitors in Indian Museums, *The Journal of Indian Museums*, Vol. IV, pp. 57-59.
2. Bedekar, V.H., *So you want Good Museum Exhibition*, Baroda, 1979.

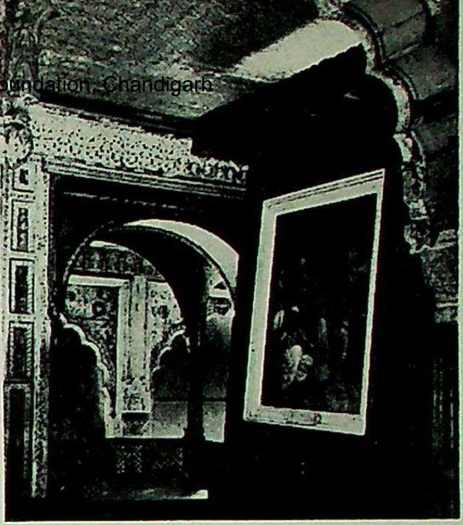


Plate 1 : An example of a museum having a decorated ceiling and gilded frames of oil paintings which are distracting attention (*courtesy* : Archaeological Museum, A.S.I., Sarirangapattinam; housed in the old Summer Palace of Tipu Sultan of Mysore).

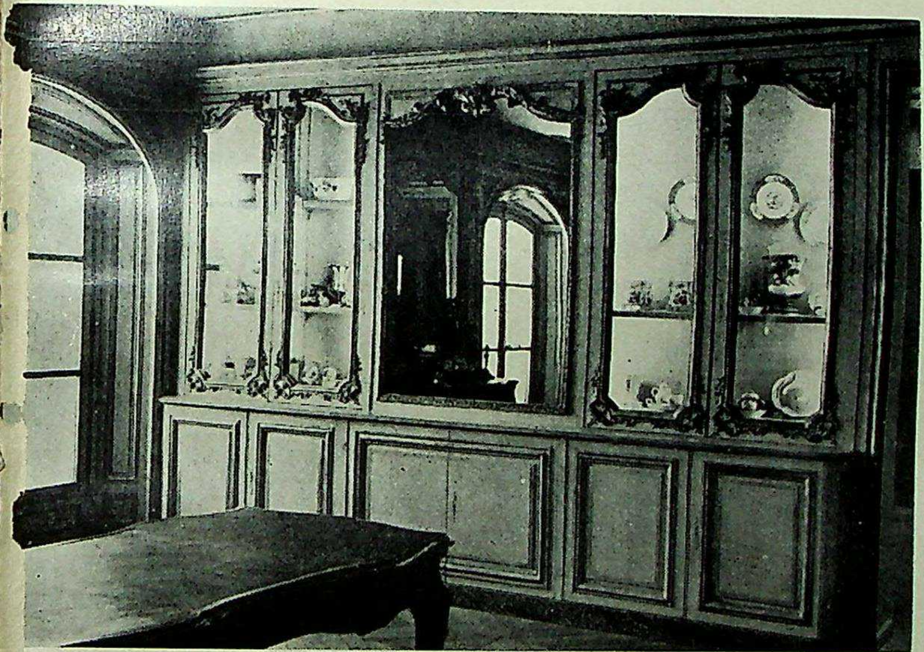
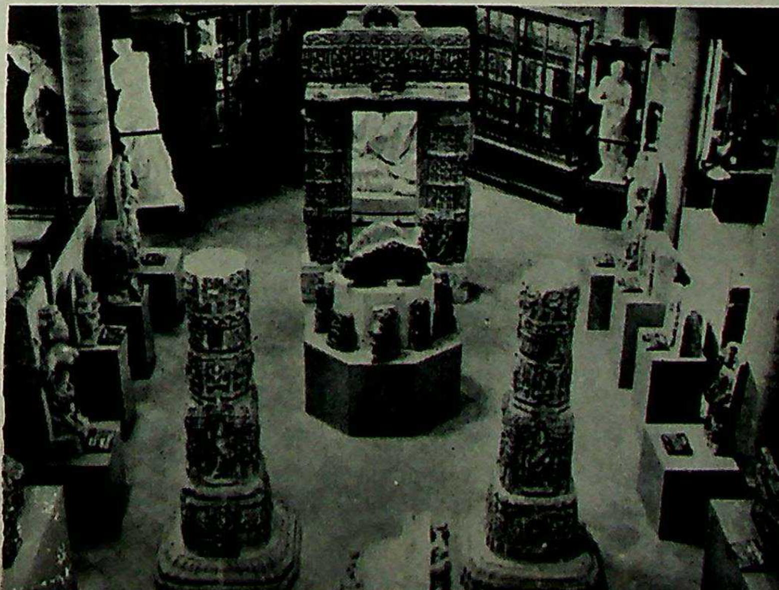


Plate 2 : Traditional display technique, reminiscent of an old 'Cabinet' (example from a European Museum).



late 3 : 'Principle of accumulating' is still in vogue as the old-world museum technique (*courtesy* : Watson Museum, Rajkot, Gujarat).

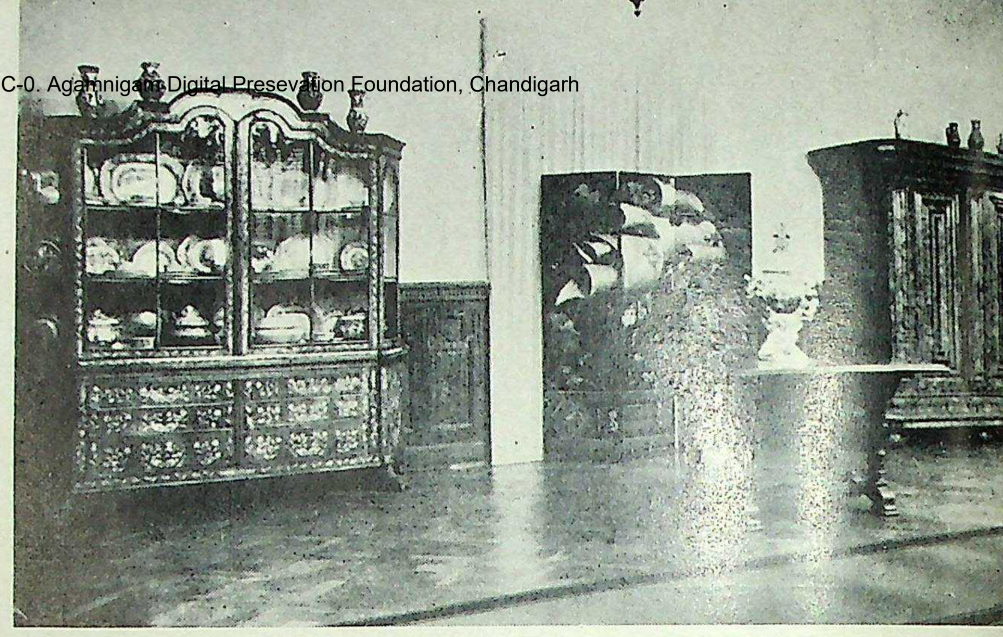


Plate 4 : 'Glass-paned' display cases (*courtesy* : Pomorski I Povjesni Muzei, Rijeka).

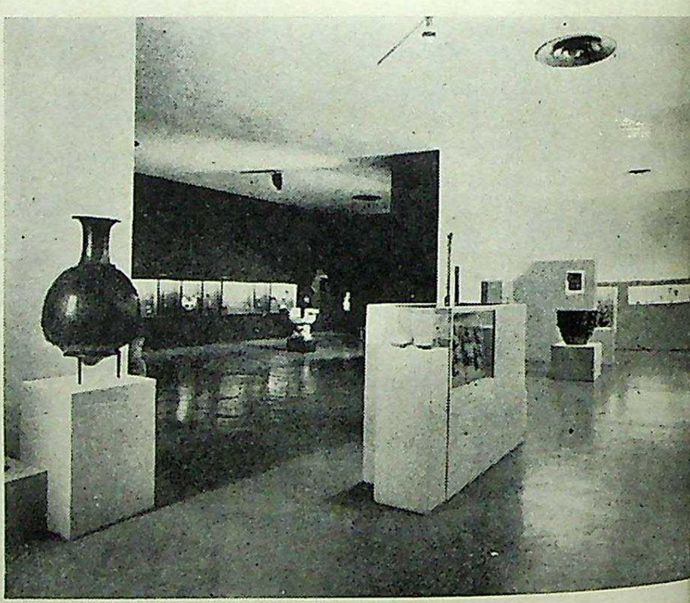


Plate 5 : Example of a well co-ordinated display (*courtesy* : Museum of Modern Art, New York).

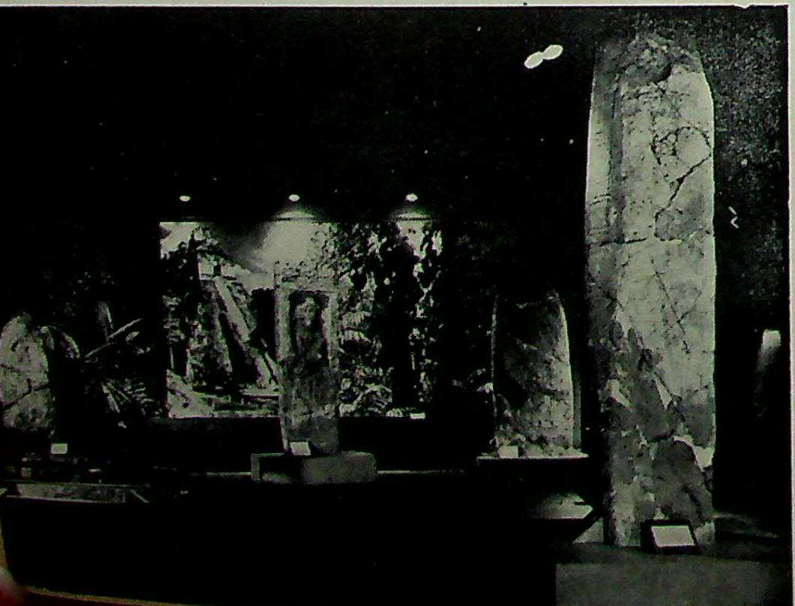


Plate 6 : Enlarged photographs of monuments in the background and imaginative use o green plants help in creating similar atmosphere in which the object originally existed. (example from a American Museum).

Plate 7 : Recognition has since been gained by the commercial exhibition as a medium of communication.

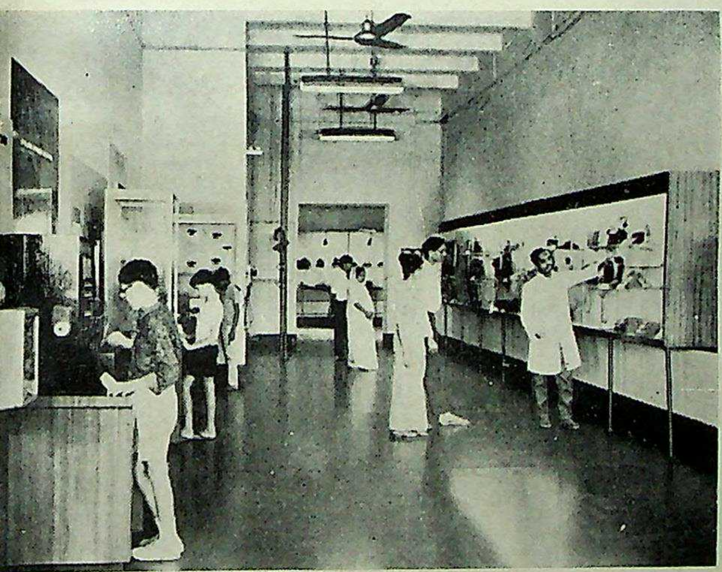


Plate 8 : Science museums' well-lighted and properly spaced display, supplemented by guiding help in understanding the complicated scientific principles easily (*courtesy* : Birla Industrial and Technological Museum, Calcutta).

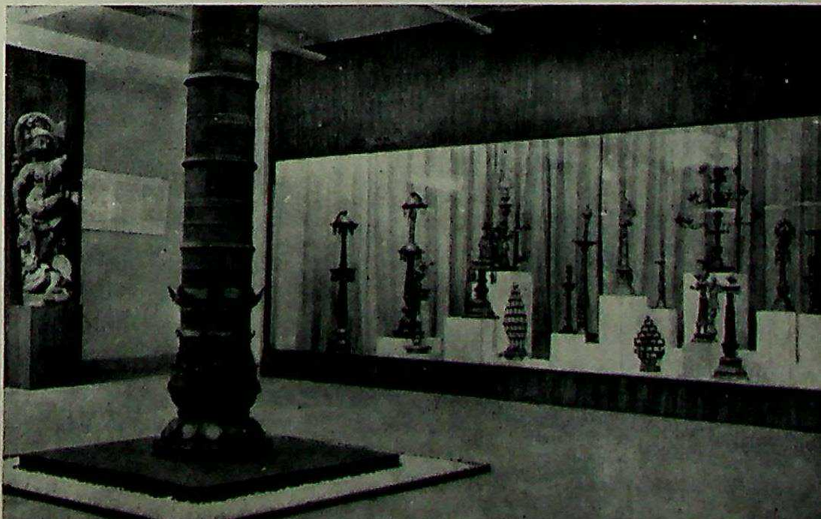


Plate 9 : Museums have now started showing less but showing attractively. The objects are so placed on pedestales of different heights that they do not mar the view of other objects (*courtesy* : National Museum, New Delhi).

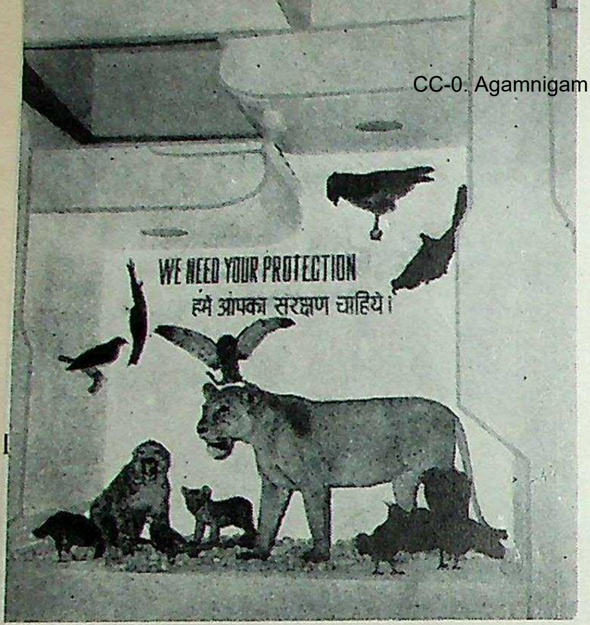

WE NEED YOUR PROTECTION
हमें आपका संरक्षण चाहिये।

Plate 10 : A Natural history exhibit educates through its objects, ensuing the museum's language (*courtesy* : National Museum of Natural History, New Delhi).

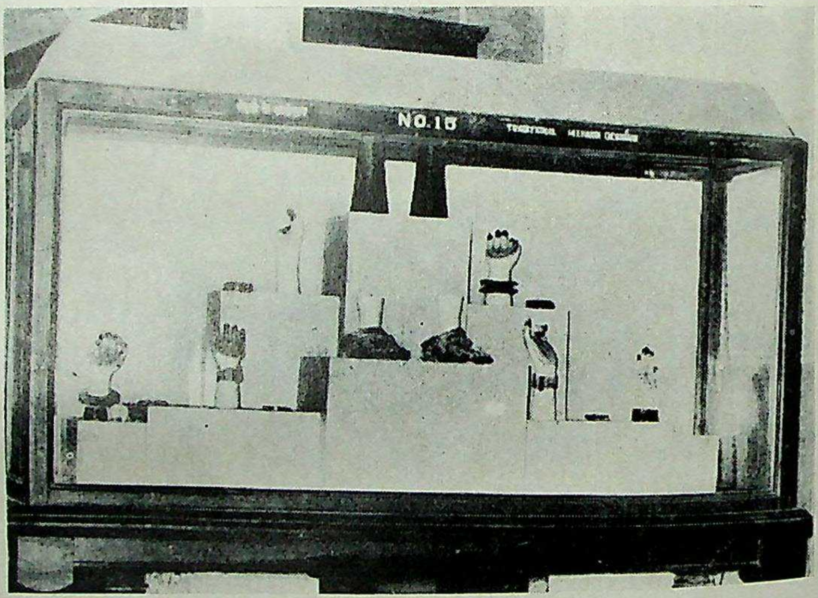


Plate 11 : A confusing exhibit supposed to display 'Mehandi' design but instead demonstrates the use of jewellery.

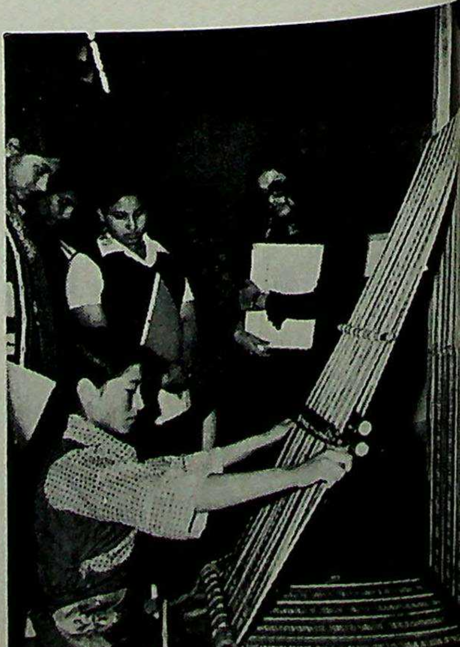


Plate 12 : A demonstration of weaving techniques helps understanding of textiles (*courtesy* : Crafts Museum, New Delhi).

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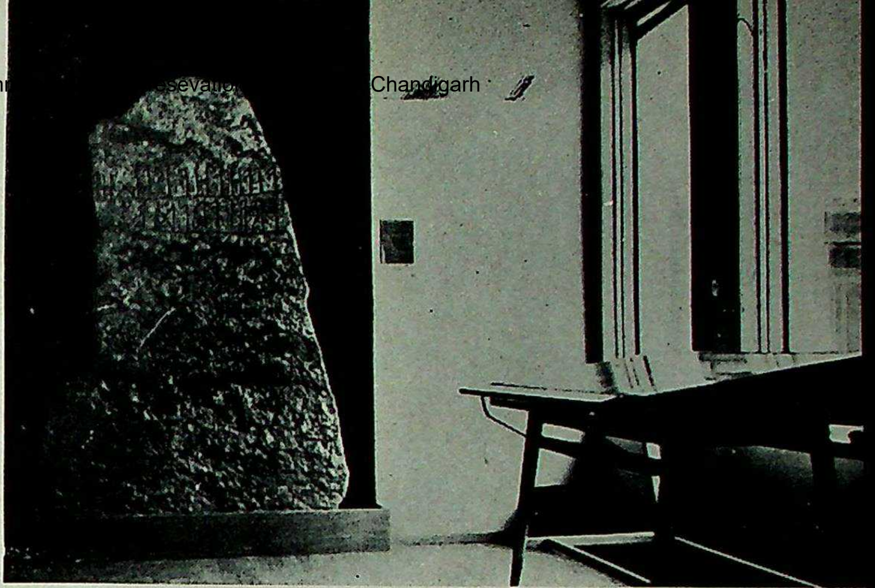

Plate 13 : Use of natural light coming from window for lighting a stone-slab and a table show-case (*courtesy* : Prof. V.H. Bedekar, Baroda).

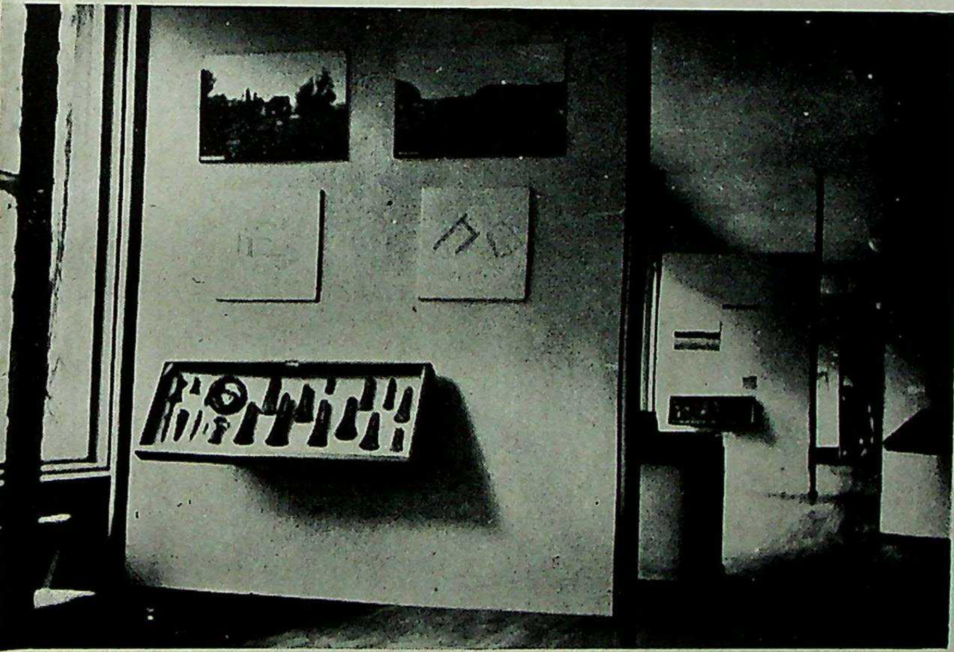

Plate 14 : A small showcase faste ed unto a tall screen obtain good natural lig from the side-windo (*courtesy* : Prof. V. Bedekar, Baroda).

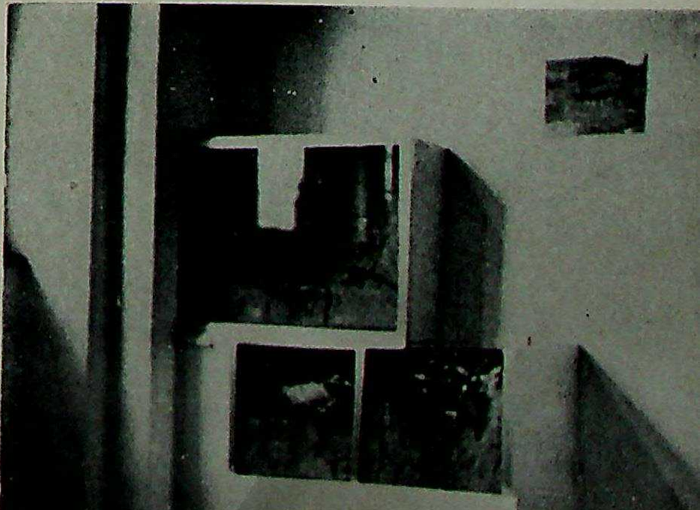

Plate 15 : Use of side-light for illuminating three soil samples displayed in box type cases (*courtesy* : Prof. V. H. Bedekar, Baroda).

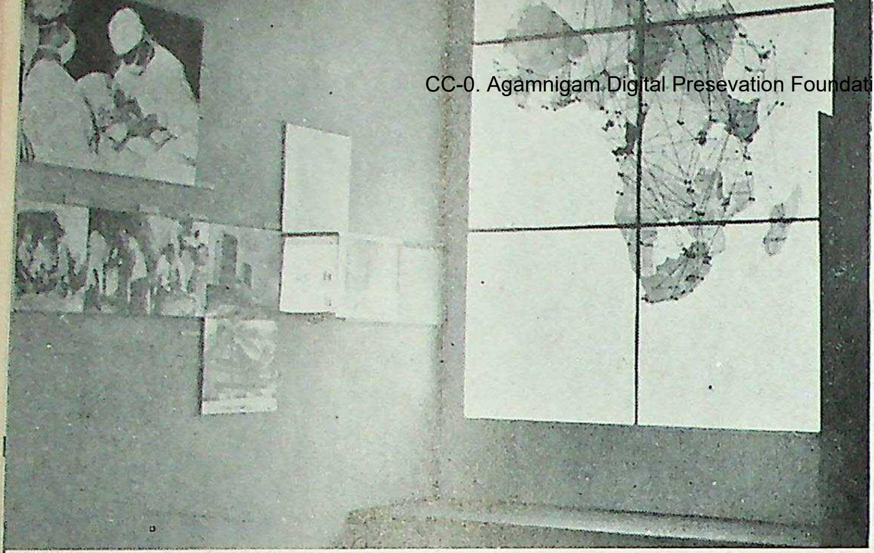

Plate 16 : The natural side-light is used to get a large map painted on groundglass panes illuminated from the rear at the Tropical Museum, Amsterdam (*courtesy* : Prof. V. H. Bedekar, Baroda).

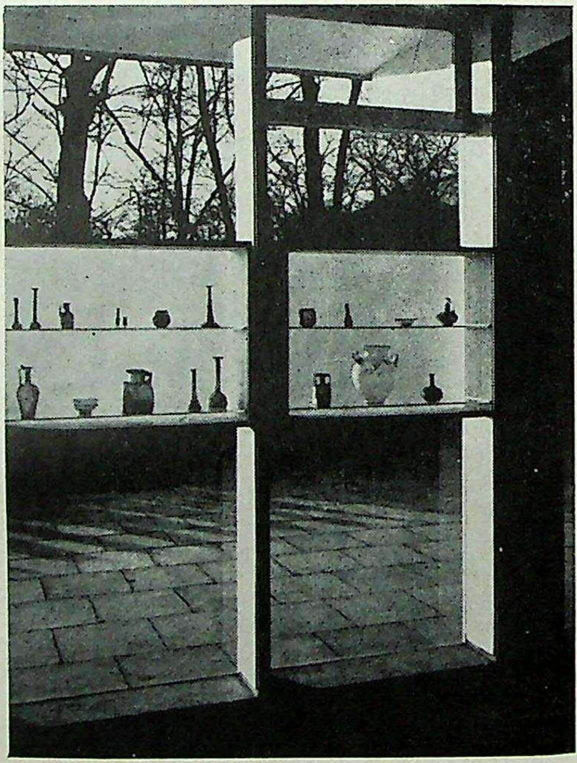

Plate 17 : The use of natural light for lighting pottery and glass objects (example from a European Museum).

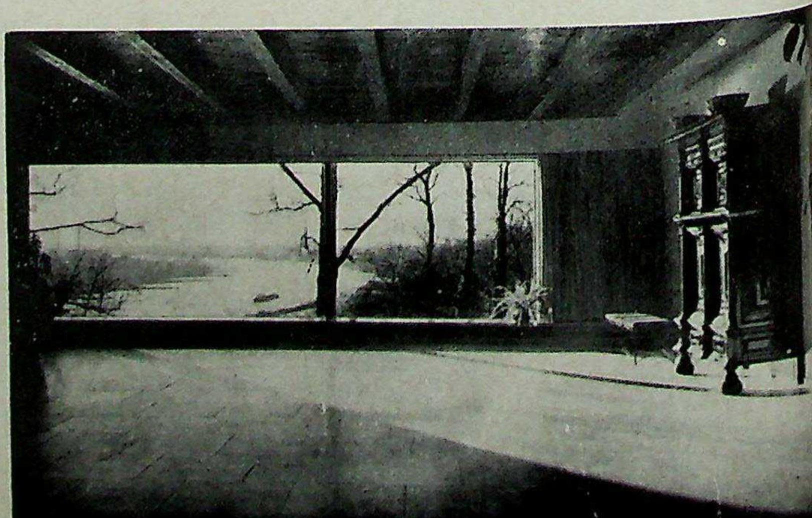

Plate 18 : Lage size windows not only light the galleries but remove the barriers between the museums and the nature outside (example from a European Museum).

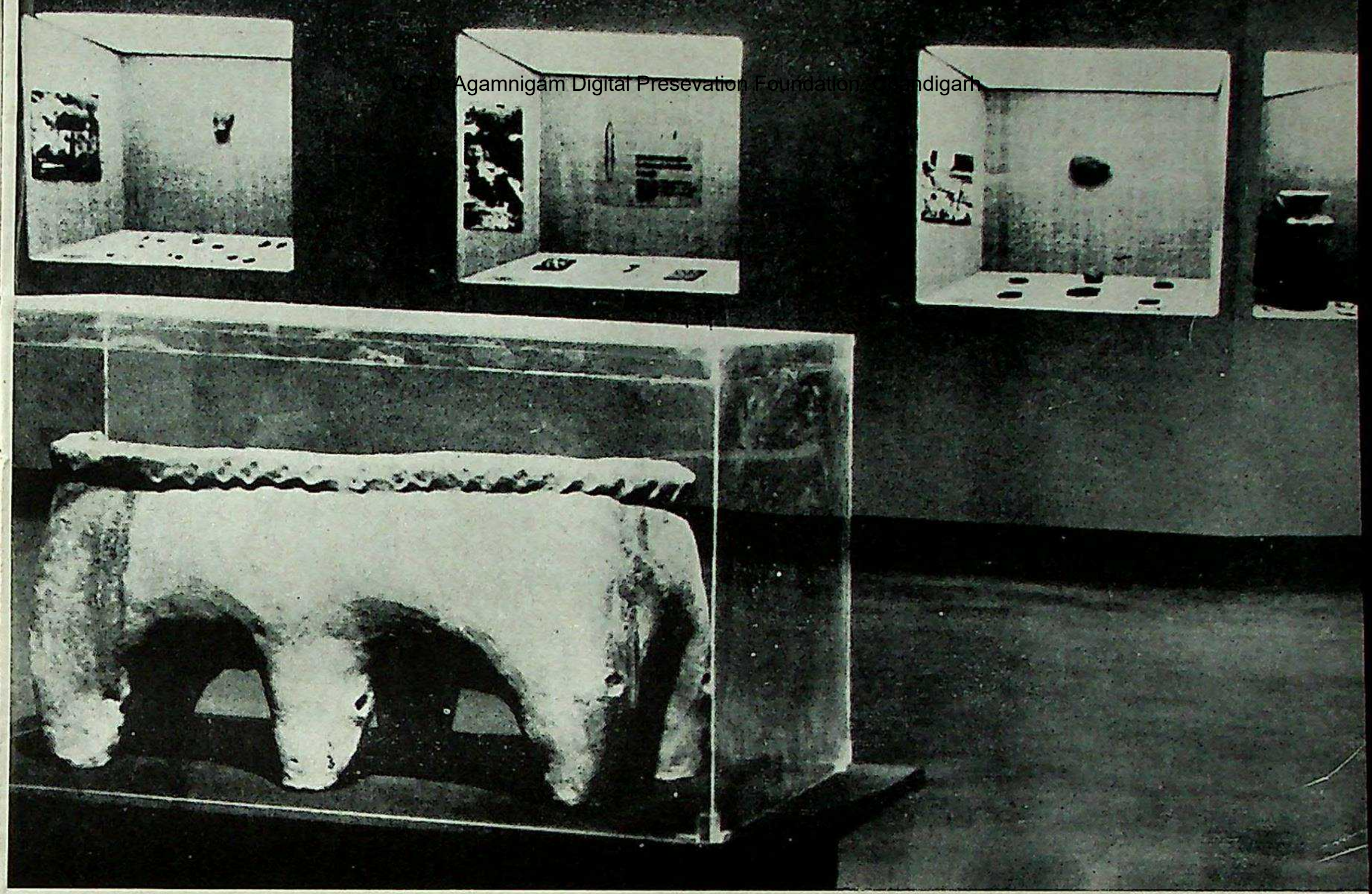

Plate 19 : Stone tools displayed in niche-showcases lighted from top. The side-walls of the showcases are utilised for displaying photographs of conjectural use of the tools during the Stone Age (*courtesy* : National Museum, New Delhi).

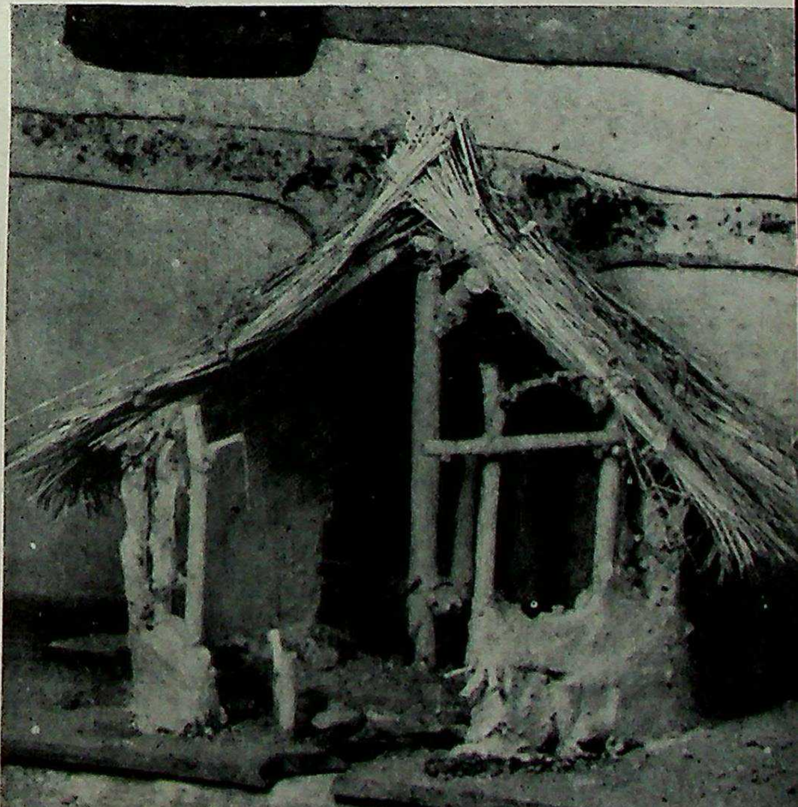

Plate 20 : Model of a 2000 B.C. Neolithic hut on the Sannarasoma Hill, near Bellary, Karnataka. Such models add to the attraction of the exhibition and its didactic use for masses (*courtesy* : Deccan College, Pune)

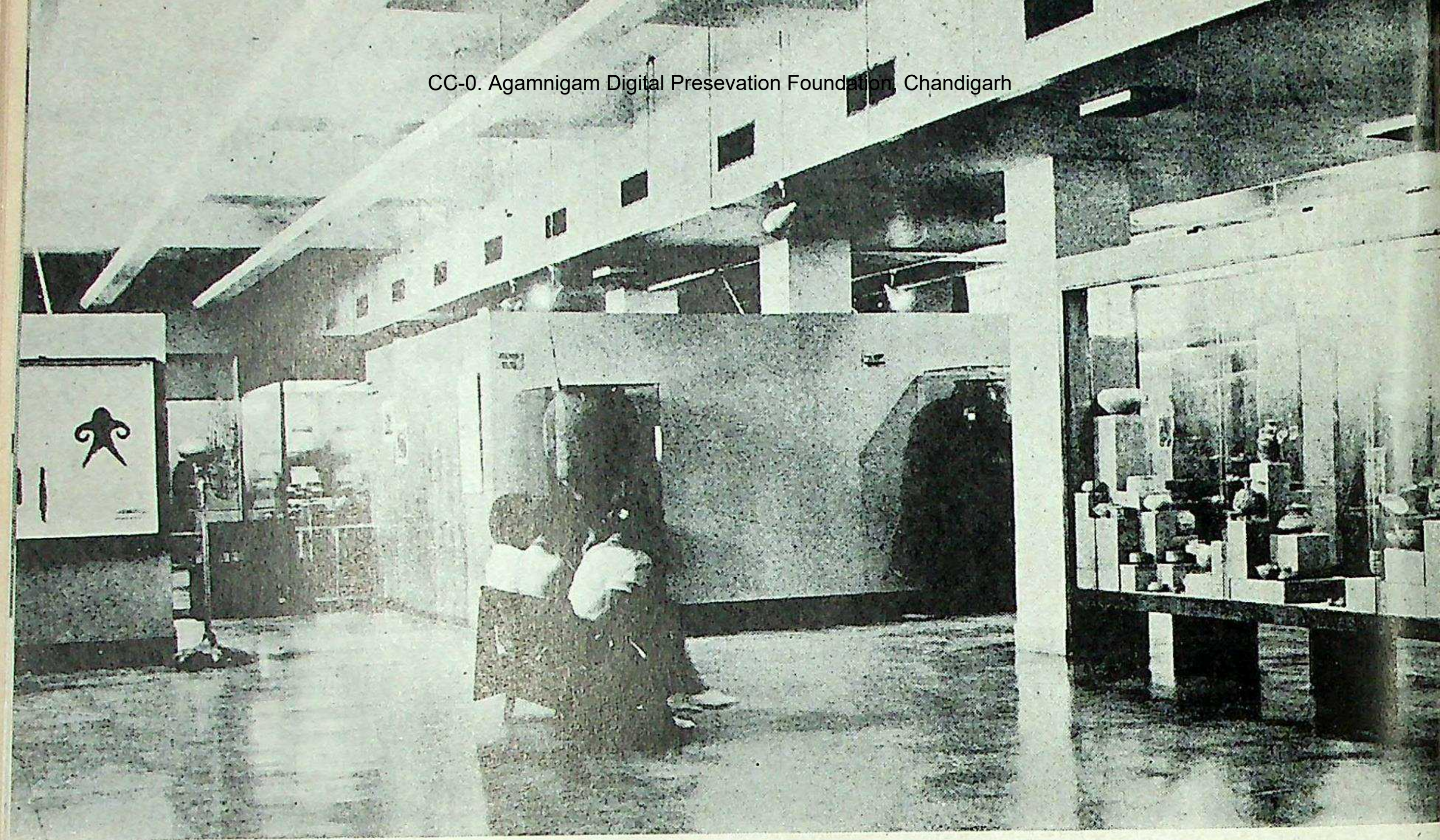

Plate 21 : A view of the Pre-and Protohistory Gallery of the National Museum exhibiting copper-tools, earthenjars and pottery, etc. (*courtesy* : National Museum, New Delhi).

Plate 22 : Table showcases are ideal for displaying flat seals, coins, etc. Showcases in the background (on left) with many shelves are no longer considered useworthy as the visitor has either to bend down or to look up to be able to see the exhibits. These are now being used for visual storage (*courtesy* : National Museum, New Delhi).

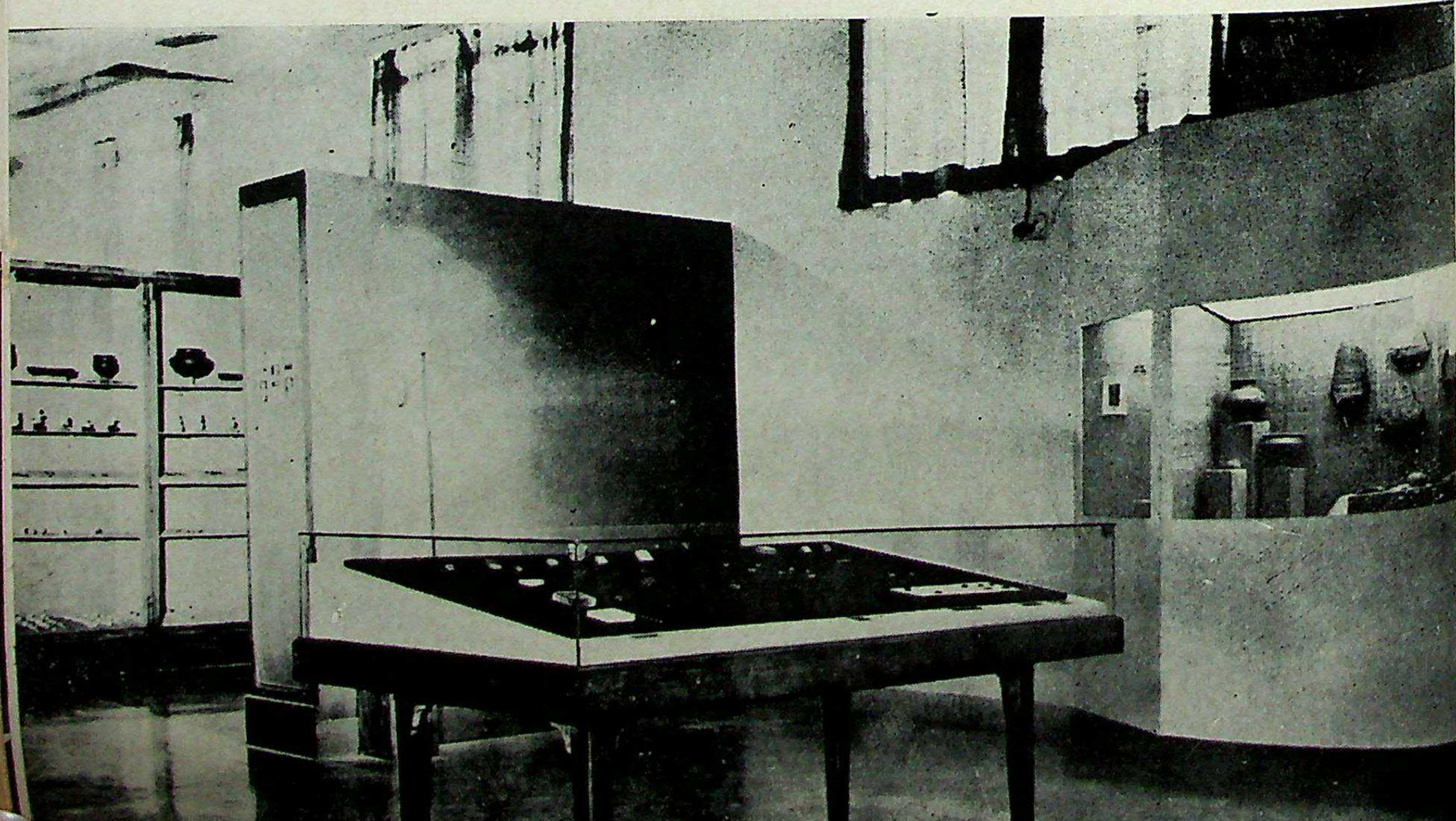

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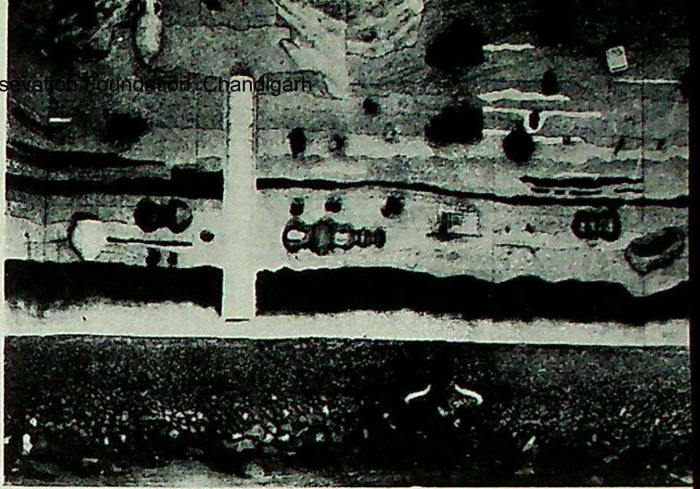
Plate 23 : Display of an excavated section from Nevasa, District Ahmadnagar, Maharashtra at the Deccan College Museum, Pune. It shows (from bottom upwards) the three river deposits : coarse gravel, fine gravel and yellow silt capped by black soil. On this rest the Chalcolithic and Historical deposits. All characteristic objects were made to scale and placed in the respective places. (*courtesy* : Deccan College, Pune).



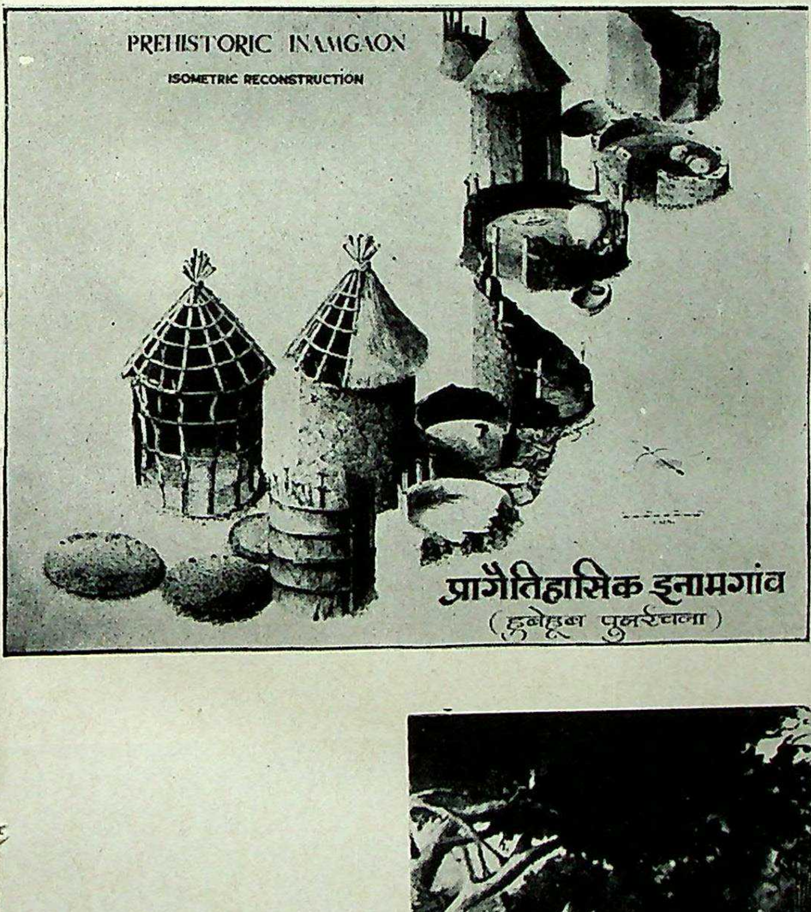
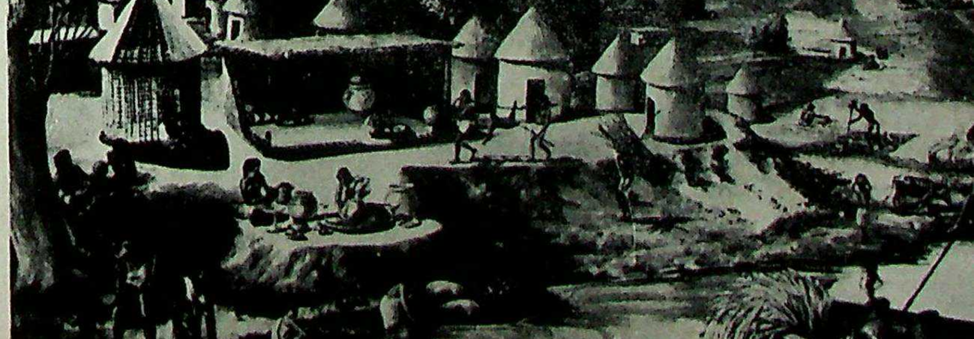


Plate 25 : Painting to scale of the Settlemen pattern at Inamgaon, Distri Pune exhibited in the Archaeologica Museum, Deccan College, Pun (*courtesy* : Deccan College, Pune)

Plate 24 : Conjectural painting of Navadato village of Chalcolithic period base on three seasons' excavations pre sently exhibited in the Archaeologi cal Museum, Deccan College, Pun (*courtesy*: Deccan College, Pune).



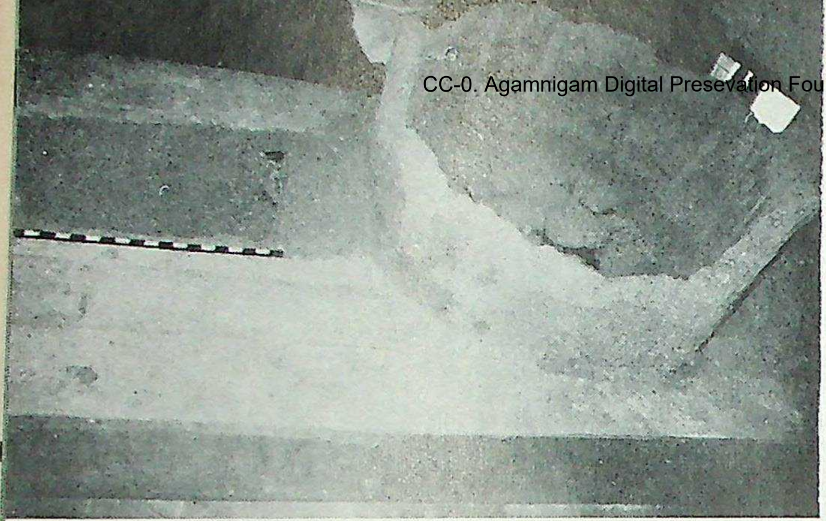
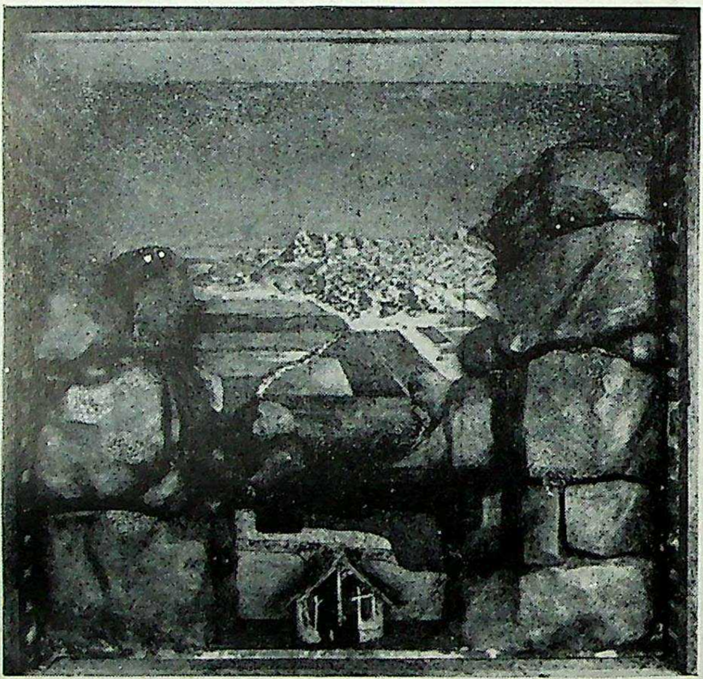
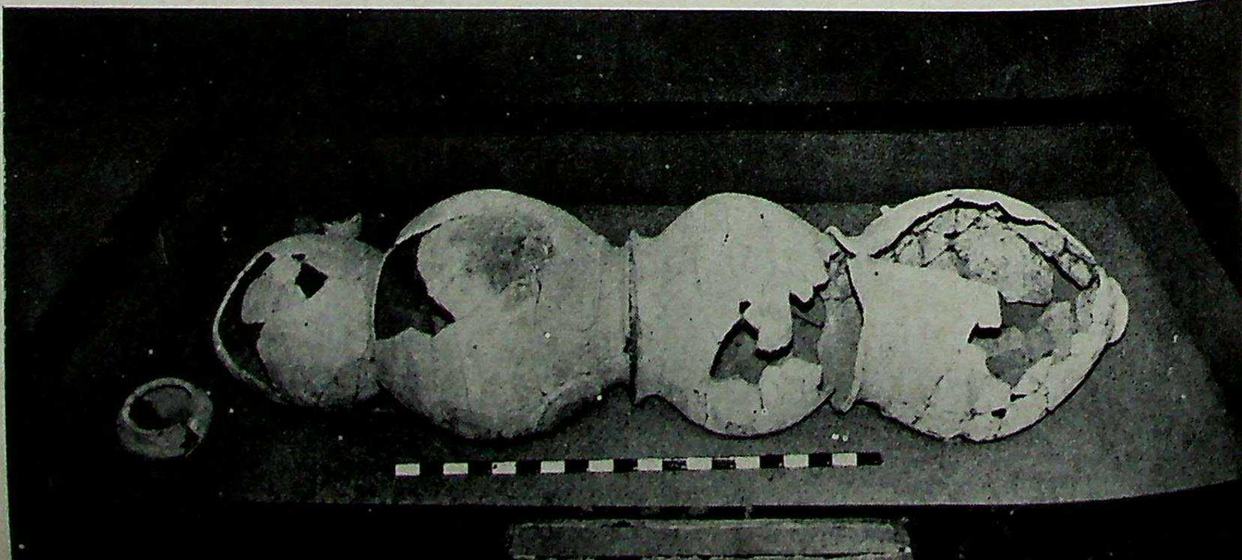


Plate 27 : Pottery kiln with cushions inside from Inamgaon. (*courtesy* : Deccan College, Pune).



ate 26 : Diorama of the castellated granite hill at Sangankal, District Bellary, Karnataka. Evidence of thatched roof hut was found in the burnt whitish soil layer over the black soil layer (*courtesy* : Deccan College, Pune).

Plate 28 : A Neolithic four pot burial from Tekkalkota, District Bellary. (*courtesy* : Deccan College, Pune).



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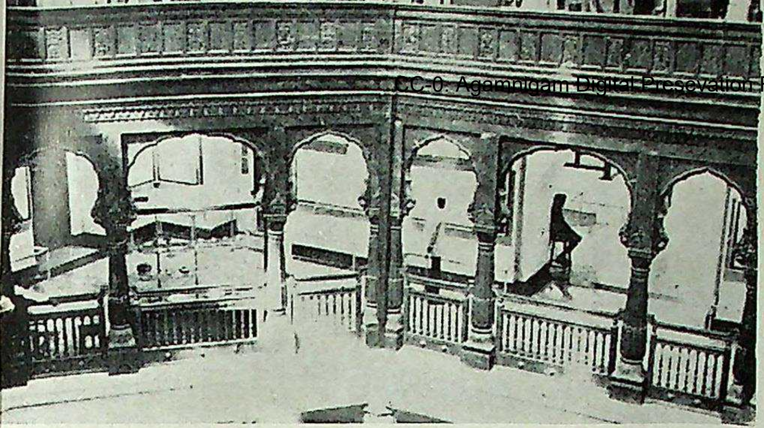


Plate 29 : A view of the Maratha style wood wor
on first floor of the Prince of Wale
Museum, Bombay (*courtesy* : Prince c
Wales Museum, Bombay).

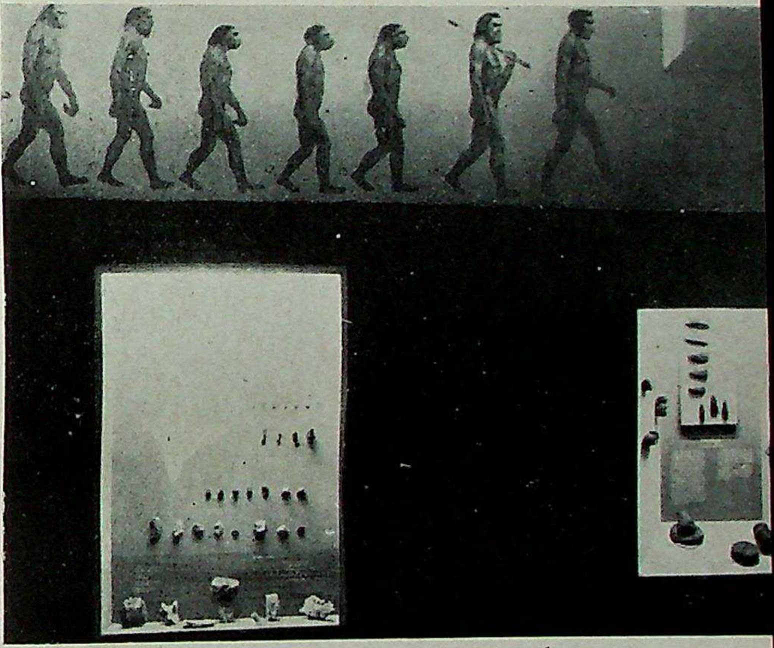


Plate 30 : Evolution of Man and Stone Age showcases, Pre-and Protohistory Gallery, Prince of Wales Museum, Bombay (*courtesy* : Prince of Wales Museum, Bombay).

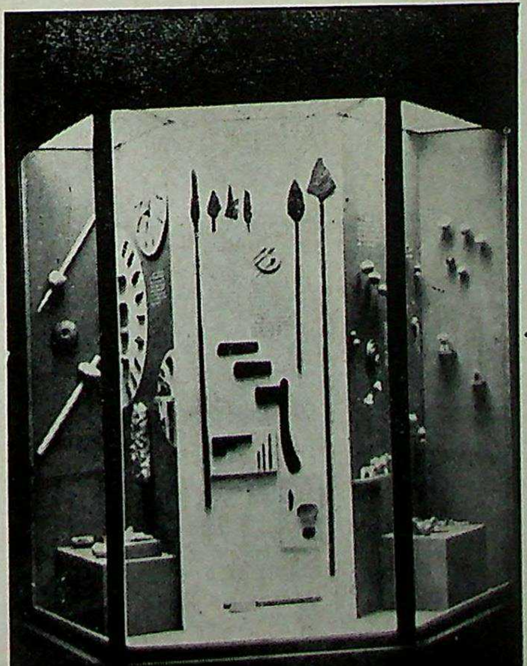


Plate 31 : Showcase in the shape of half of a hexagon exhibiting Tools, Weapons, Games and Toys (*courtesy* : Prince of Wales Museum, Bombay).

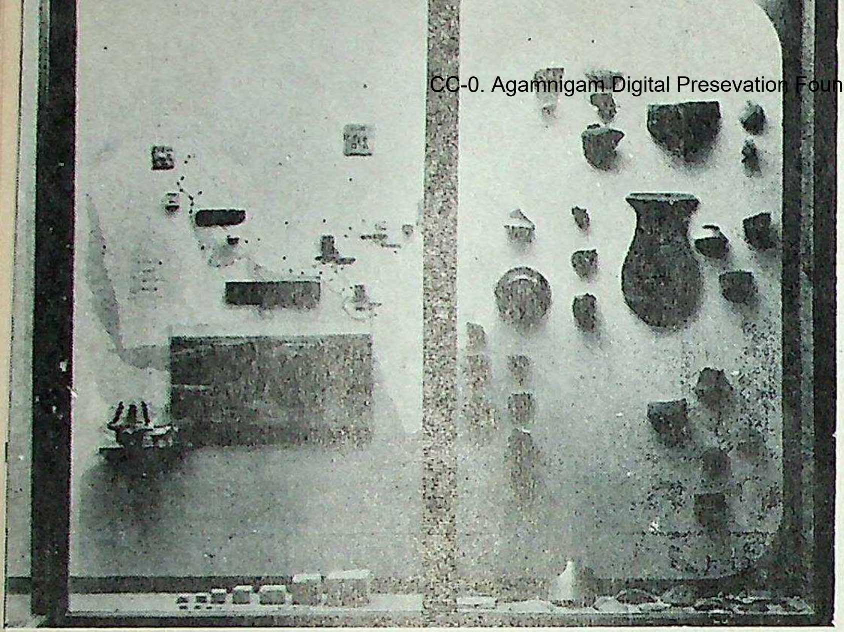
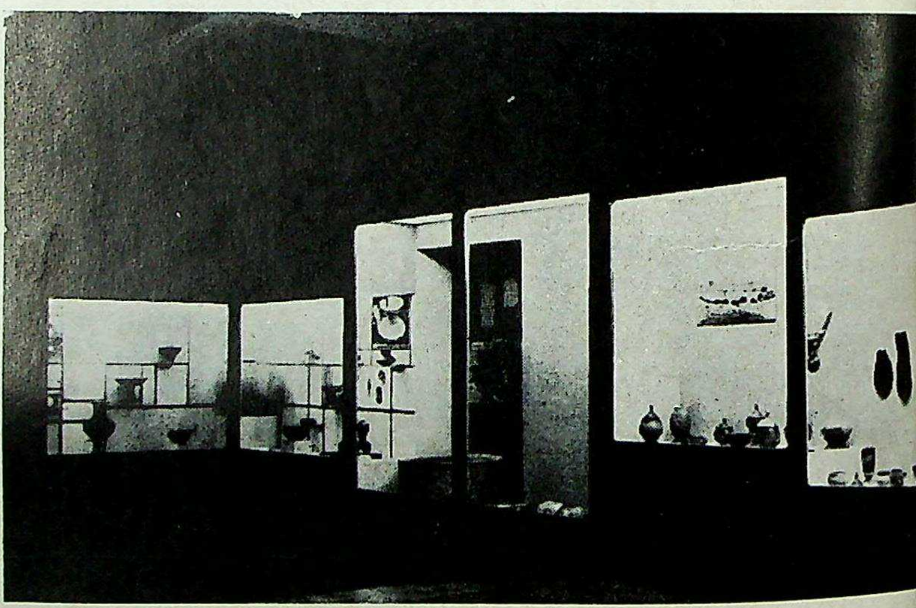


Plate 32 : "L"–shaped showcase for exhibiting trade-contacts and painted pottery (*courtesy* : Prince of Wales Museum, Bombay).



ate 33 : Late-Chalcolithic period cases (*courtesy* : Prince of Wales Museum, Bombay).

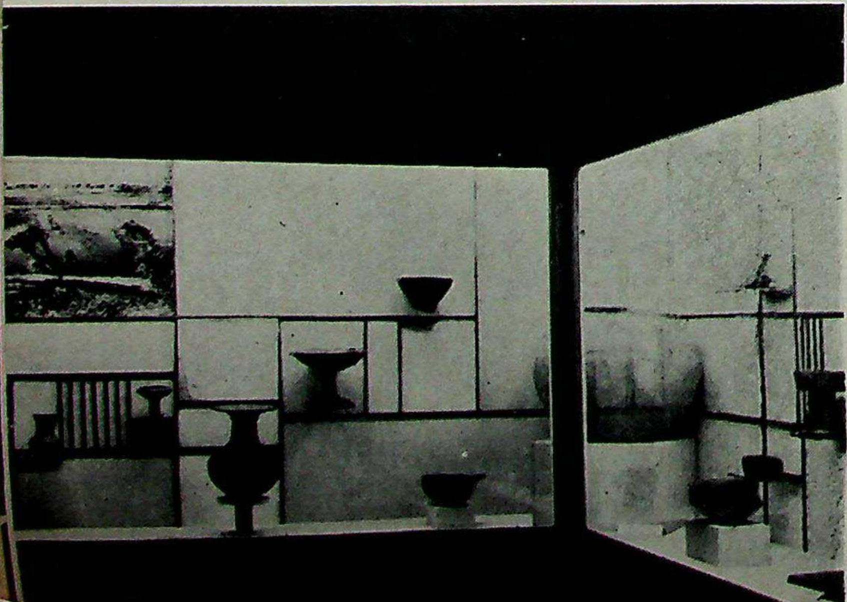


Plate 34 : Details showing for post-Harappan Chalcolithic culture (*courtesy* : Prince of Wales Museum, Bombay).

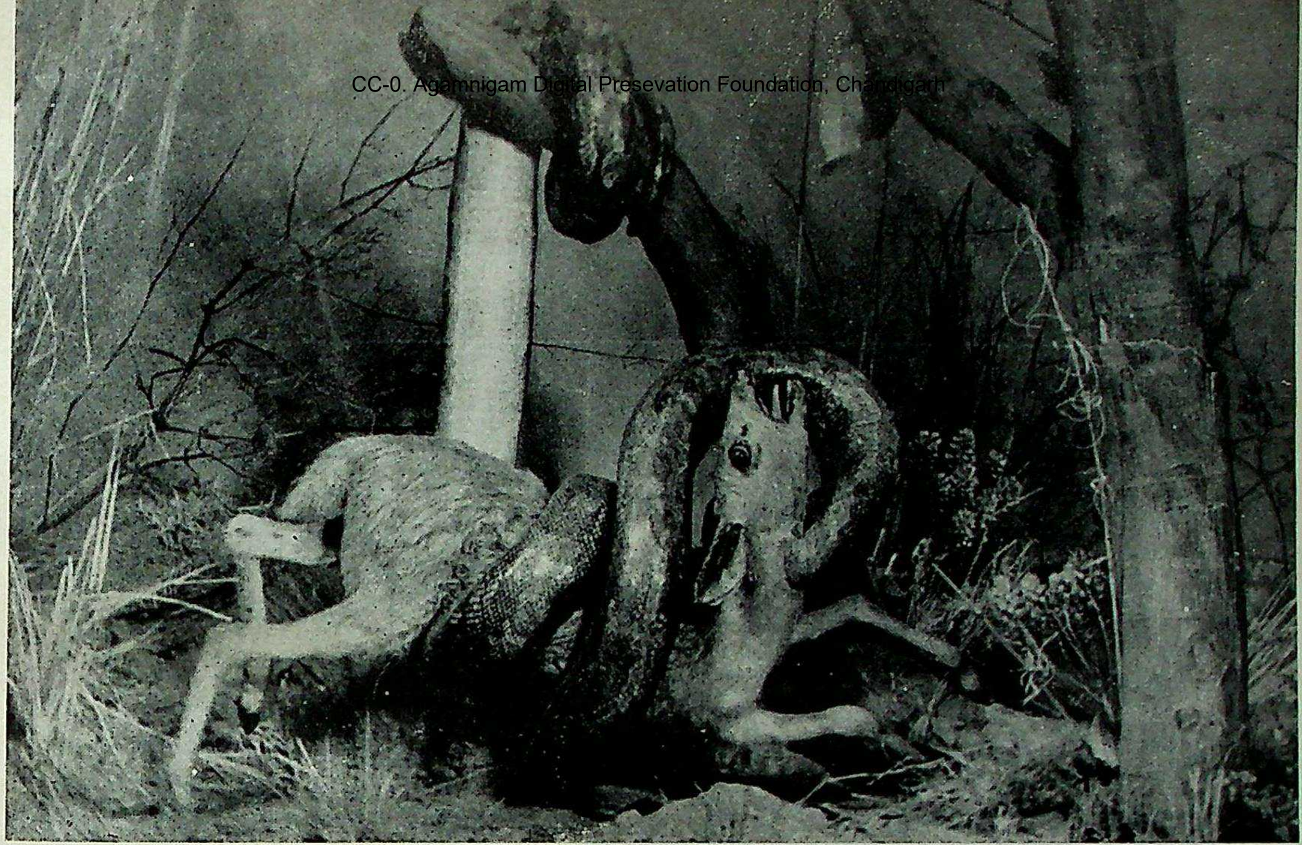
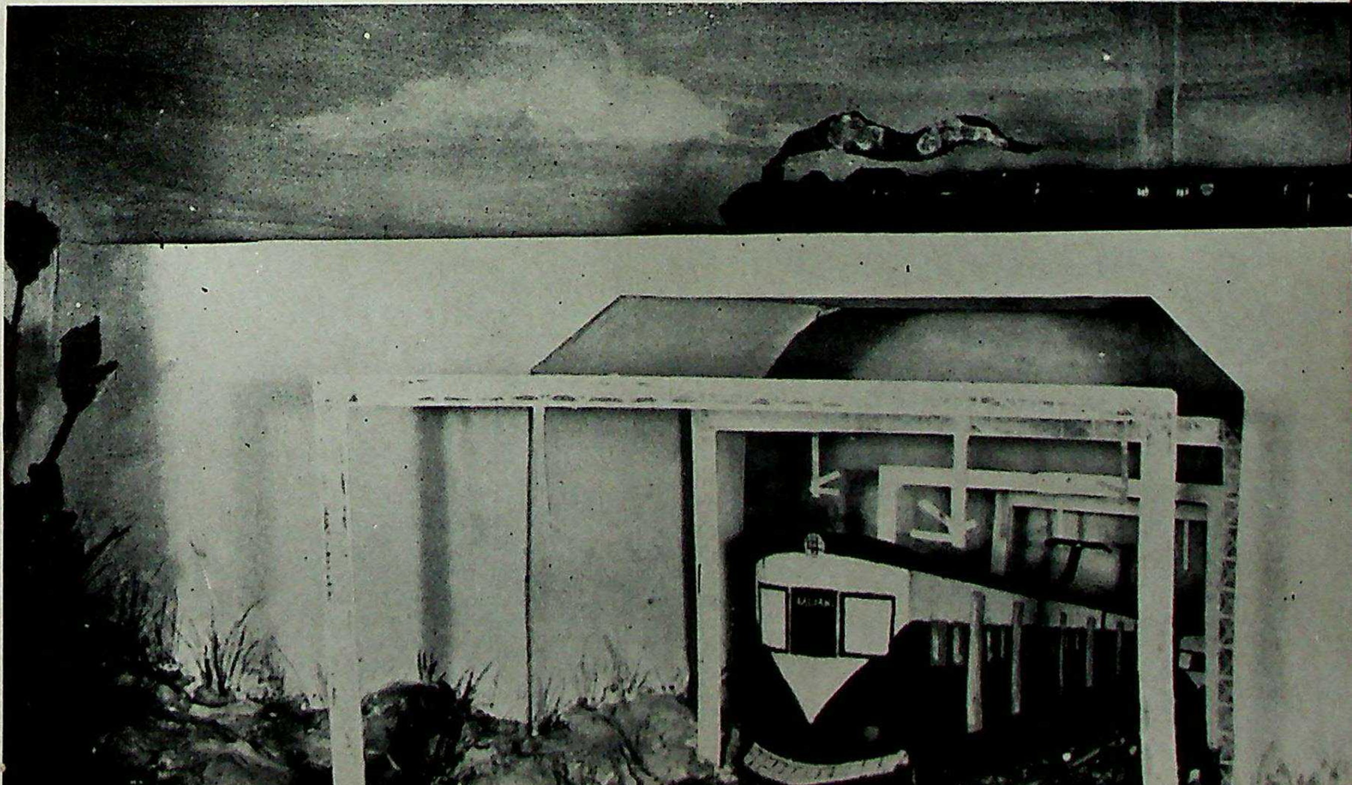


Plate 35 : A diorama in a Natural History Museum showing effective display of snake killing a deer (*courtesy* : State Museum, Lucknow).

Plate 37 : A model of a diorama prepared by the students of museology, Calcutta University, Calcutta. T science and technology museums use diorama in almost all exhibitions and hence quite often t are more effective. (*courtesy* : Asutosh Museum of Indian Art, Calcutta University, Calcut



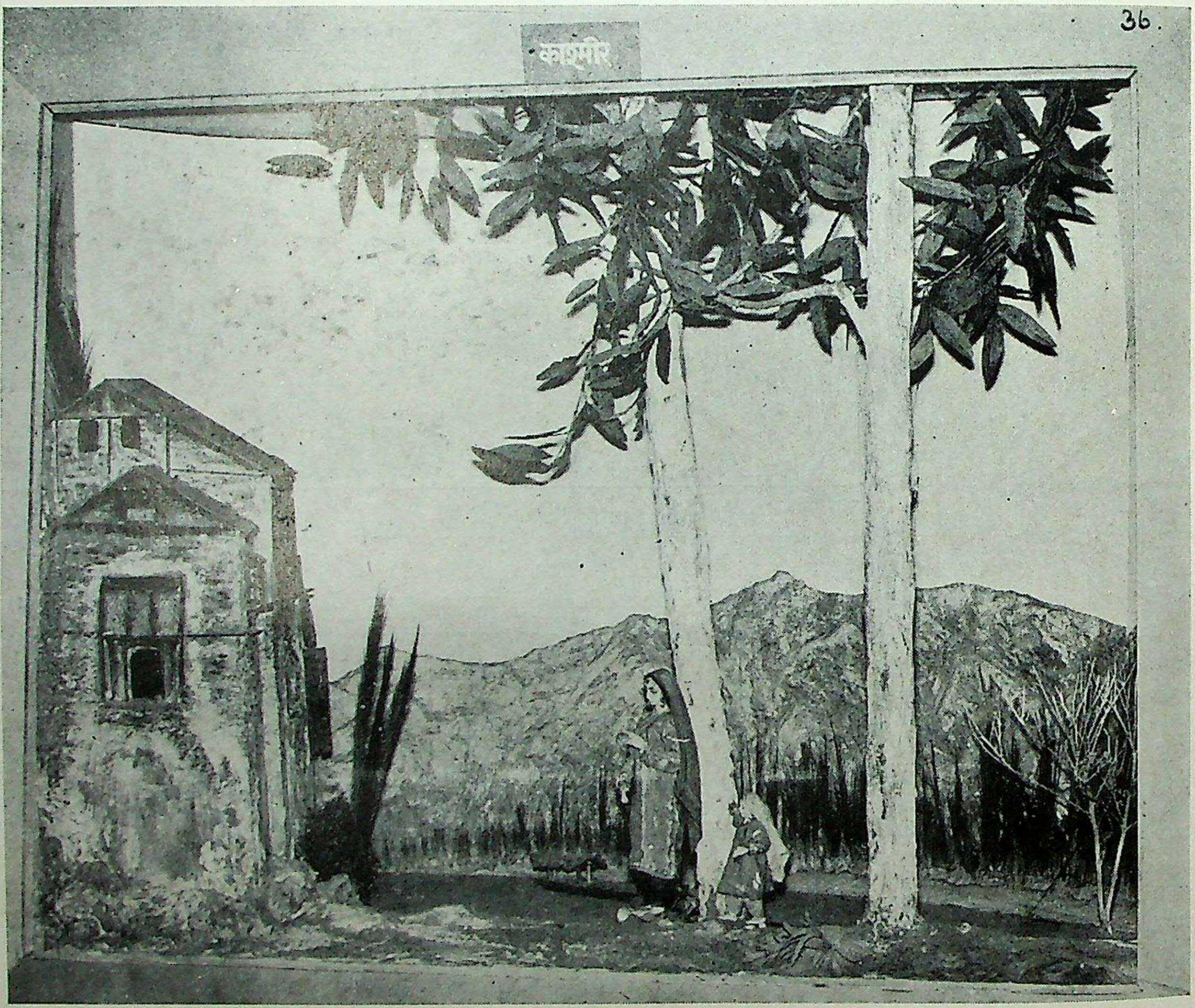


Plate 36 : A diorama showing the residents of Kashmir in their natural surroundings.
(*courtesy* : Motilal Nehru Bal Sangrahalaya, Lucknow).

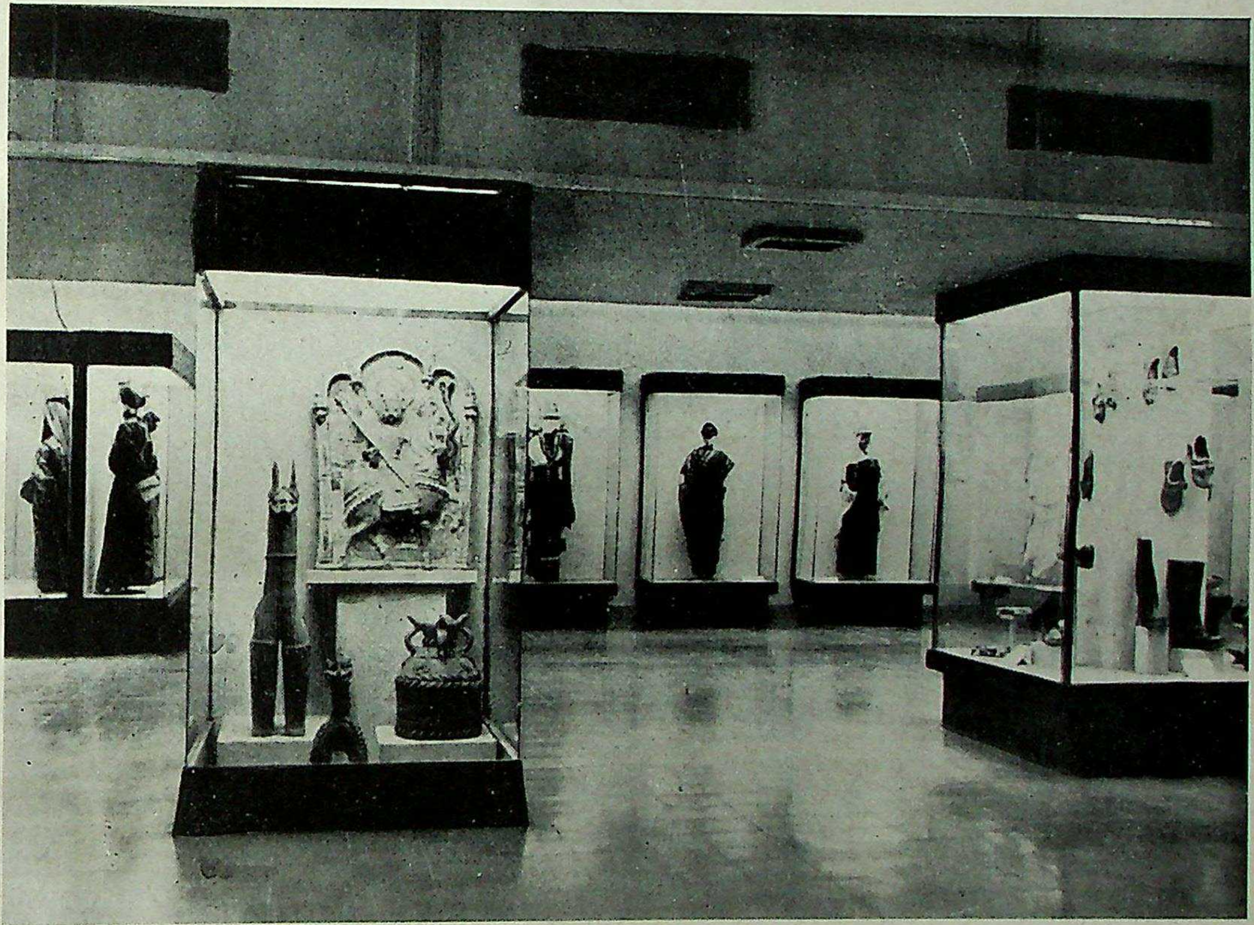


Plate 38 : A view of the Anthropology Gallery of the National Museum, New Delhi, exhibiting shoes in one showcase and terracotta objects in another (foreground showcases). An example of subject-wise display. (*courtesy* : National Museum, New Delhi).

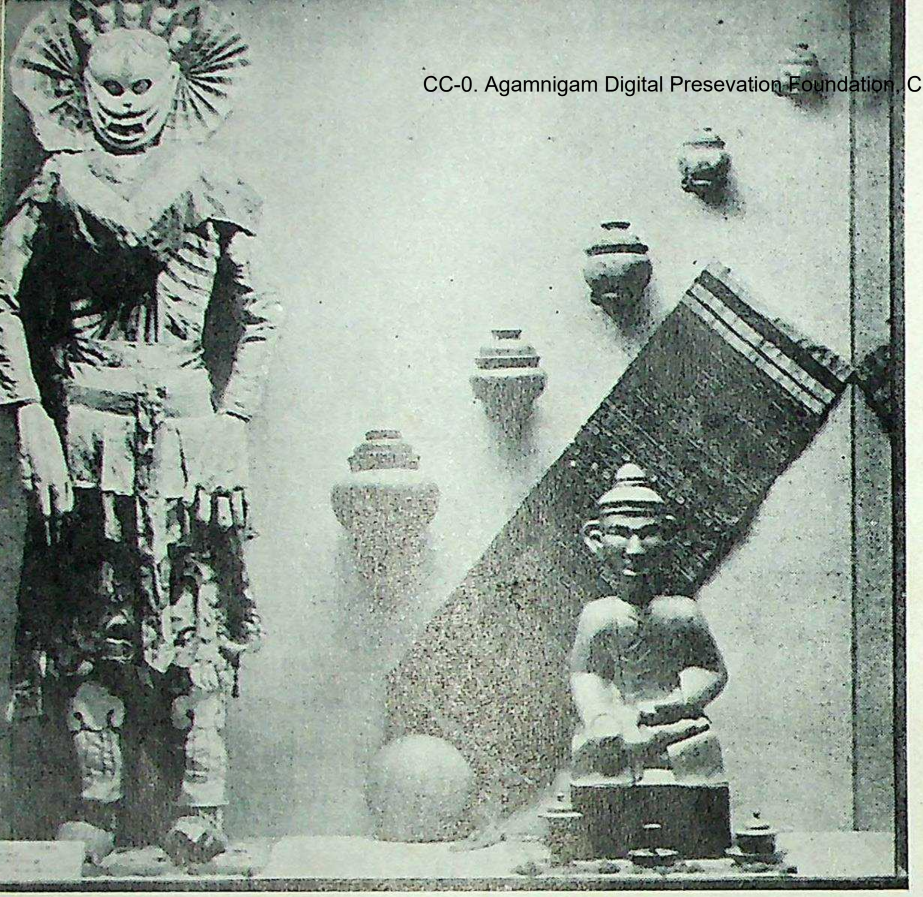
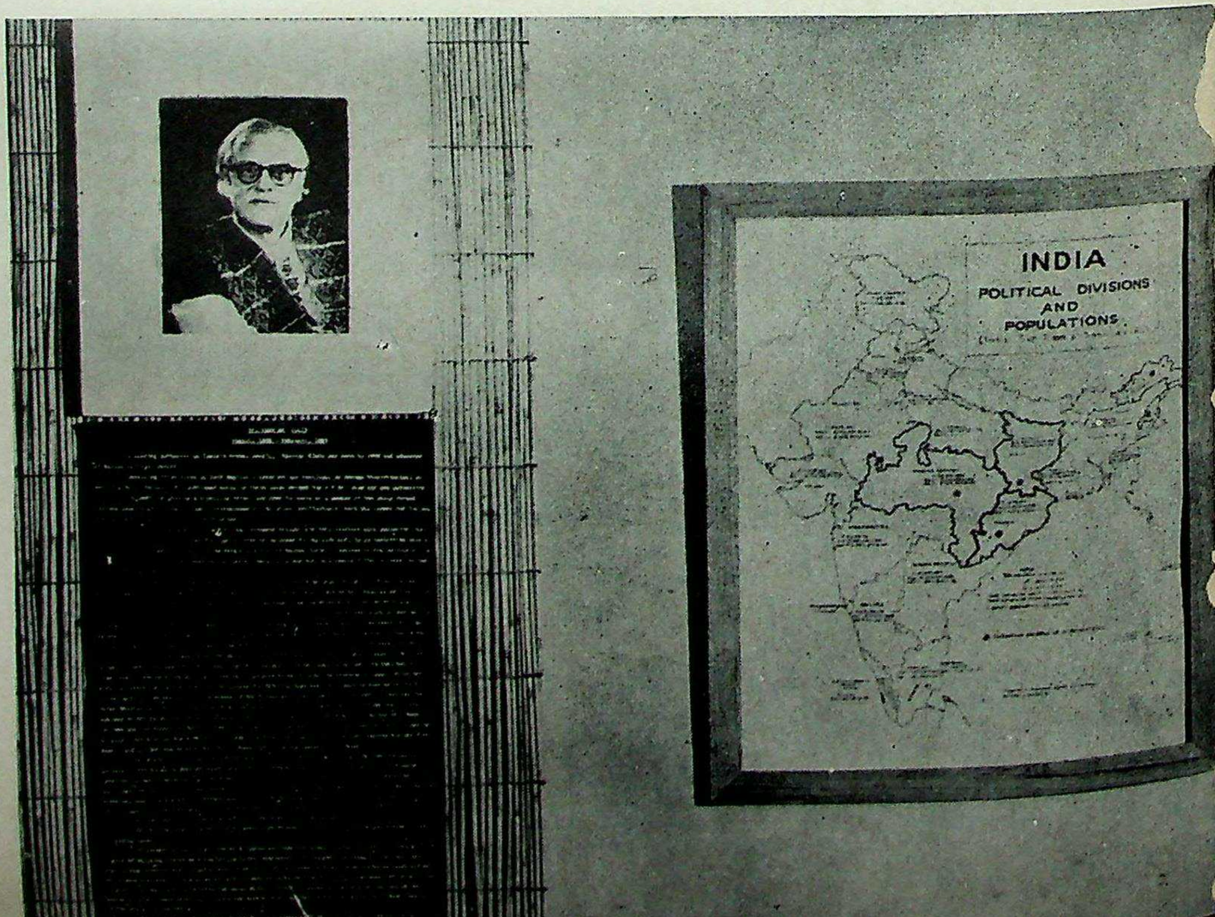


Plate 39 : A showcase exhibiting objects from NEFA at National Museum, New Delhi. An example of region-wise display. (*courtesy* : National Museum, New Delhi).

Plate 40 : A map and a detailed introductory label at the beginning of the gallery add to the knowledge of the visitors and make it easier for them to see the exhibits of their interest (*courtesy* : National Museum, New Delhi).


INDIA
POLITICAL DIVISIONS
AND
POPULATIONS

PART II

Administration and Documentation

8

BASIC NEEDS OF MUSEUM PLANNING IN INDIA

AJAI SHANKAR

Objectives

At the very root of any planning exercise lies the question, a very fundamental one, of whom it is intended to benefit from the development programmes to be taken in hand. In the field of museums particular thought needs to be given to this issue, it appears, if museum development is to be given the priority it deserves in national planning. So far our museums have existed largely as mere repositories of antiquities or other objects, and the mode of display is such as can be of interest only to a limited number of scholars or such persons as already have some background of art appreciation or of the discipline that is the concern of any particular museum. Alas, in a country like India such persons form a very small minority. Perhaps, with the spread of education, and that too if the whole education system is reoriented towards the creation of a basic cultural awareness, can this number be gradually increased over the course of years. But we cannot wait for that time, even taking the present limited preservative objective of our museums into account—in fact, the more so because of this. It is ironical that in other much more developed countries, where the accessibility to diverse cultural material through a variety of other sources is much greater than in our country, museums are used much more effectively as a means of cultural education than in India. Here it is only in recent years that there has been a vague realisation that projection of museum material, apart from its preservation, has its own importance. Logically, of course, the latter follows from the inescapable need of the former. Hence, the basic objective of museum planning in India should be to educate the largest number of persons through mainly visual means about our past heritage as well as present resources.

Taking Museums to the People

The matter of attracting the common man to visit the museum is one side of the story. The other aspect is that of having enough museums for the people to visit without having to travel large distances at much expense of time and money.

For both these issues, a common argument given for the lack of action is the lack of finances. True, much larger outlays are required for museums than the meagre amounts so far provided. But if the objectives outlined above are clearly borne in mind, it should be possible to make a very definite beginning with the existing resources. Once this is done, the argument for demanding heavier financial outlays will be greatly reinforced. Of course, the existing museums would have to discard or modify to a certain extent the somewhat elitist views in regard to the use of supportive material like photographs, drawings, reproductions, recreations, etc. They would also need to devote much more attention to the questions of "how" and "why" that underline the creation of any artifact or object of museum value—that is to projecting in simple visual or other terms the social context and the techinque of creation of the objects displayed. While establishing new museums the above factors would have to be borne in mind, but the most important factor that would need consideration is that all new museums need not be planned, at least at the initial stage, on a very ambitious scale.

Planning for Museums at Different Levels

It is obvious that planning for museums of various disciplines and for different regional levels would require diverse lines of approach. It would be equally obvious that there is a need for a concerted and co-ordinated approach to museum development in the different fields and areas both at the centre and in the states. The necessity of having composite units for museum planning and development, both at the national and states level, needs to be consequently stressed. These units should comprise museum experts and administrators having a deep insight and interest in the demands of the situation. Wherever a sufficient number of such persons is not available, those having a basic potential should be picked up and trained. A sound personnel policy should be matched with the identification and expansion of training programmes in institutions of national and regional levels. These may be supplemented by the introduction of diploma and other more advanced courses in museology and related fields like archaeology, epigraphy, art appreciation, etc., in more and more universities. This expansion of training facilities will eventually help in creating a sufficiently large force of trained personnel to man the museums, at least one for each district, expected to come up in the future years. Care should be taken, however, at least initially until the generation of an adequate demand for museologists, to link university training courses with those of other related disciplines like Art, History, Architecture, Archaeology, etc., or Sociology, Anthropology, Geology, etc. Simple techniques of display and presentation can also be taught in polytechnics, or of conservation of other than valuable objects as a part of Chemistry curriculae.

National and State Museums

Enough thought and attention has already been focussed in recent years on the development of museums of a national character and of institutions at the state headquarters, and it is not intended to offer any detailed comments in this regard in this brief paper that seeks to take a general stock of museum planning needs for the country as a whole. However, it may be repeated that even the national and regional museums, specially in view of the large outlays already earmarked for many of them, should also be developed in such a manner as would make them suitable to cater to the requirements of a broad-based museum-going public that it should be their intention to attract in rapidly increasing numbers. They should take the lead in projecting the museum as a centre of community cultural activity, seeking not only to preserve the national heritage, but also to foster a living countinuity of the immense fund of knowledge and cultural traditions that past ages have so generously handed down to us. In this context, it may be added that the areas which call for the setting up of separate national museum should be identified and new institutions should be built up for these. An initiative in this direction has been taken up with the setting up of the immensely popular Rail Museum and with the decision to set up a Gems and Jewellery Museum as well as a Museum of Man. The states would also do well to build up their state level institutions after taking into account those aspects of art, history, ecology, ethnography, or even technological knowledge that may be unique to their respective areas. The design of the building, the collections of objects, and the presentation should, as far as possible, have basis in the regional background. There should also be an attempt to link the regional flavour with national traditions and perspectives. An active system of inter-museum exchanges and loans of objects would facilitate this. The central and state governments should also identify such private museums as have major valuable collections and should encourage and assist their growth and developmlent. This is of particular significance in view of the desirability of building up a sufficient market for objects of value within the country to supplement the enforcement of the restrictions on their export imposed by the Antiquities and Art Treasures Act, 1972.

Museums for Smaller Regional Units

The paradoxical situation in this country is that while on the one hand there is a definite paucity of funds forthcoming for museum development, on the other hand the time has come when it is essential in the interests of national development to meet the inroads of modernisation with the spread of knowledge, or at least awareness, of our own cultural heritage, not only to protect and preserve our traditions, but also to provide a base for modern advance in our vast and distinctive indigenous cultural and intellectual genius. One of the best ways of doing this in a country still largely illiterate is through the medium of the museum that through audio-visual material can provide an understandable picture of what we have been and what we are, to enable our people to face the diverse influence of a fast changing society with equanimity.

The first step in the direction should be to take a tally of the museums that already exist in different regions. A survey could be made of all the districts in each revenue division to locate whatever museums, big or small, good or bad, that already exist. A directory of significant museums is already available.

The information given in this could be supplemented. If one museum, private, municipal, government run, or with a university, already exists in a district, an attempt should be made to assess its developmental needs and to locate ways and means of fulfilling these. This would naturally also apply where there is more than one museum. Even in such districts there may be other large enough places, say with a population of one lakh persons or above, which, although they have no museum, do possess a potential, by way of interested persons or organisations or a rich wealth of material, to build up one with comparative ease. There should in any case be an attempt to locate such potential in districts not having any museum at all. In the beginning, such districts as do not reveal any *prima facie* potential had best be left out. It is needless to add that this survey cannot possibly be made in the usual routine bureaucratic manner, but would require an on the spot, detailed study by devoted persons having some practical knowledge of the requirements. A quick scrutiny can be made by sets of carefully chosen teams or individuals of middle level museum administrators or professionals or others involved in related cultural work. If necessary, a review can thereafter be made in each state by a more high-powered body. The first thing to be seen is the easy availability of cultural materral—archaeological, ethnographical, or ecological—in surrounding areas. Very often, even valuable sculptures can be found strewn on the surface across the countryside. Depending on the magnitude of the material available of any one type, a decision can be taken as to the type of museum that can first be built up for a particular district or other similar unit. Some places, such as those in the North-Eastern region, abound in folk arts or crafts. Here folk art museums can be made into centres of conserving such artistic traditions. Certain small towns are often the centres of large public sector or other industries and the managements can be encouraged to set up a small technological or geological museum (*e.g.* where there is large scale mining).

The next thing to be looked for would be the availability of a local body that could take on the work of seting up and maintaining a museum. Such bodies could range from voluntary associations, universities or colleges, municipal bodies or *panchayats*, district archaeological associations, etc., to even, in selected cases, individual art collectors or industrial or business houses, etc. who could spearhead the formation of registered societies. Such bodies could be facilitated and assisted by the government. In Madhya Pradesh, for instance, there has been much progress, it is understood, in forming District Archaeological Associations that are setting up small local museums with grants from the central and state governments.

The next thing to follow is the location of a suitable premises for the museum. Usually unambitious yet adequate accommodation can be found with the help of local bodies and the district administrations who can also help in making security arrangements.

Finally, the best way of funding the venture would have to be settled. Very often financial and other assistance for collection of material, staffing and other maintenance costs would have to be provided by the government. The objective should be to first make a beginning. It is quite likely that some of the museums thus started would, for various reasons, not be able to develop. But it is also certain that after some time there will be a sizeable number that will survive and succeed and can eventually be built up on more sophisticated lines. In all probability it would be highly worthwhile if each state were to take up a scheme on the above lines during the medium term plan, starting with a rapid survey to be followed up first by a certain number of pilot projects within the first couple of years, and based on the experience thus gained, by a more large-scale adoption of the idea.

Museums and Education

The ultimate success of the museum movement in India would depend on how much and how soon it can get integrated with the life and aspirations of the community. It has to take into account the educational institution that has replaced, with its formal system of imparting knowledge, the age old oral family tradition. Similarly, if the school has to fulfil its consequent responsibilities, it has to find new and interesting ways of introducing cultural or scientific knowledge to the child. Ideally, the local museums, when developed on the right lines, should provide the school with a very powerful medium. Not only would the child here be able to get knowledge as a whole, but he would also be able to see and hear the craftsmen and performers, embodying living cultural traditions, at work. And he would, if he desires, be able to learn these crafts and arts. The museum would no longer be a place for a once-a-term-visit. It would be an integral part of the learning process.

However, schools and colleges can make a separate beginning by establishing simple museums of their own that could have displays of scientific, ecological, or ethnographical materials, as well as of reproductions of art objects. This is another area in which the state education and culture departments could evolve schemes for the next plan in collaboration with the central government that has already created a base with its Scheme For The Propagation of Culture through schools.

Guidance and Direction for Local & School Museums

Apart from the national institutions, the state and university museums could develop a system of giving guidance for the establishment and running of district or other small museums set up by educational institutions. They could also take up the conservation work pertaining to such museums, once their own conservation facilities have been built up to the requisite degree—and this is another area that calls for immediate attention. Then again, they could take the lead in instituting drives for the identification, collection, conservation, and documentation of, for example, manuscripts, or oral knowledge, or give advice regarding publications, etc.

The archaeological departments and the Anthropological Survey of India with university departments of Anthropology could take the lead respectively in regard to archaeological and ethnographical museums. The Archaeological Survey of India could also render invaluable assistance in the setting up of local museums by developing its sculpture sheds into site museums which could even be shifted to small distances, in the interests of accessibilty, to the nearby towns. It could also play a pivotal role in the documentation of our artistic and archaeological heritage by developing its photo library into a Central Photo Archives with the active participation of leading museums throughout the country and the state archaeological departments.

Finally, there is an immediate need of setting up central and state level committees of museum experts from different disciplines to frame and give constant direction to a new and comprehensive museum policy.

Conclusion

The purpose in writing this paper has been to focus attention on the need for a new, wide-based approach to planning in respect of museums. Certain general ideas have been put forth which, it is hoped, would be broadly acceptable to various forms of planning that are better equipped to give them a positive form.

Summary

1. Museums in India should be given greater educational and popular orientation in order to meet the needs of the vast majority of illiterate and semi-literate population. This can be done in two ways :

   (a) by suitably modifying the displays in existing museums along with the introduction of schemes to make the museums centres of community cultural activities;

   (b) by locating more museums in smaller towns and cities.

2. Museum planning should be in the hands of composite units, both at the central and state levels that can take an overall view of the development of institutions relating to different disciplines. There should also be a built-in system of co-ordination between the central and the state units.

3. Training facilities for museums planners and administrators should be increased by way of introduction of more courses in museology, archaeoloy, epigraphy, art appreciation, etc., in a larger number of universities. Initially, these courses could be linked with other related disciplines like art, history, architecture or sociology, etc.

4. New areas which call for the setting up of separate national museums should be identified.

5. Regional museums should be built up in each State taking into account the factors unique to their respective areas linked with national perspectives.

6. Museums in smaller cities and towns should be built up after a survey which should take the following factors into account :

   (i) Existing institutions that can be developed further;

   (ii) In places where there is no museum as yet, potential by way of;

      (a) availability of cultural or other museum material.
      (b) a local agency that could set up a museum.
      (c) accommodation.
      (d) finances.

Taking all these factors into consideration, the Government could formulate schemes of rendering financial and professional assistance in developing or setting up small local museums. These institutions may initially be visualised on modest functional lines.

7. Similar action can be taken for the setting up of small, simple museums in selected schools and colleges.

8. The Archaeological Survey of India could develop its site museums, if necessary by re-locating them in adjoining towns or cities, so that more people can benefit from these.

9. The national, state, and universities museums should equip themselves for providing help in setting up and running of smaller museums and in taking the lead in the identification, collection, conservation and documentation of various categories of cultural material.

10. Committees of museums experts from different disciplines need to be set up at both the Central and State levels to give direction to the implementation of a new comprehensive museum policy.

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9

MUSEUM ADMINISTRATION IN INDIA

H.S. JASSAL

In the last two decades while considerable progress has been achieved in the field of museology, specially in the display of objects, not much attention seems to have been paid to tone up the administrative structure existing in various museums as how best to keep its pace with the development of museums in the country. In this paper we shall try to analyse various factors responsible for such apathy to the museum administration.

The major Indian museums are either managed directly by the Central Government or indirectly through a Board/Trustees[1]. The museums in the country have grown either out of the private collections of the individuals or the Central Government itself have established the museums like the National Museum, New Delhi to house the collection of the Archaeological Survey of India and those donated by some State Governments; those administered as subordinate offices and those taken over by an Act of Parliament. In addition to these museums, there are the state museums, private museums, university museums, municipal museums and the site museums of the Archaeological Survey of India. Each one of these museums has problems of its own, which need to be tackled individually. On the academic side there is a common feature in all the museums that they have the staff with a degree in history and have experience or a certificate in museology. There is, however, no such common denominator, for the administrative staff even when it is accepted that the administration of a museum poses problems which are totally different from those of the other similar institutions.

To understand the working of a museum one must accept that the museum differs from other government institutions. On one hand it acquires antiquities either through donations or by way of purchase and on the other it preserves them for the country. Simultaneously it ensures that its display and educational services cater to the needs of the multiplicity of the visitors which throng to the museums daily. They vary from the primary school students to the scholars from all over the world and the public in general. There is no unified authority or a uniform pattern of governance of the museums which now cover the antiquities, aeroplanes, railway engines and carriages, handicrafts, textiles, postage-stamps, natural history and various other sciences. The museums dealing with archaeological antiquities have been in the country for a considerable period and if some thinking is directed towards the administrative and other problems of these museums and about their governance; the museums in the other field which are being established now, would definitely benefit from the experience of the already established museums.

The major problem of a museum is to have a building of its own[2]. The National Museum, New Delhi which was established in 1949 envisaged four phases in the construction of the building. The first phase was completed in 1960. The 2nd phase has still to be undertaken after a period of 19 years. Similarly, all other museums have a problem of finding space for their continued activities.

The Central Government museums which are run as subordinate offices follow the Government rules in their day to day matters. The head of the museums is delegated the financial and administrative powers under the rules so that he can attend to day to day administration on the basis of this delegated power. However, he has to refer cases of policies and financial sanctions, beyond the powers delegated, to the Ministry concerned. In other words, he is, to a great extent, tied to the Central Government Department which administers the subordinate offices. In the case of the autonomous organisation which have been declared 'institution of national importance' by an Act of Parliament, there is a Board which administers the museum with the Governor of the State as its Chairman. It has the infrastructure of an Executive Committee and a Finance Committee. The Department of Culture is represented on these committees as well as on the Board. As far as the State Museums are concerned, they are generally attached to their Department of Culture/Education and in the administrative and financial matters they very seldom get the attention they deserve from the State Governments. The University Museums usually form a part of the Department of History/Ancient history of that University and these also do not get the requisite administrative and financial support for their upkeep and development.

As far as the Central museums are concerned the budget for their maintenance and development is provided under Non-Plan and Plan heads in the Consolidated Fund of India. Over the years, due to the revision of salary scales of the staff-as these are on par with the Central Government scales, a major portion of the fund is spent on the staff. Consequently the museums are always handicapped not having enough funds for maintenance in the Non-Plan side. The Central Government, however, provides ample funds on the Plan. Generally these funds are utilised in the implementation of additional programmes, etc. In the case of the autonomous museums the funds are scruitinised by the Finance Committee and then approved by the respective Board. The museums have to depend mainly on the Plan budget for their development and to some extent for the maintenance of those schemes.

The museums' income, in addition to the Central Government grants, comes from the sale of the tickets, sale of photos, prints, etc. This provides a minuscule proportion of the annual budget. One method of increasing their income would be to sell greeting cards, calendars, diaries, post-cards on the collection in the museum. Some of the museums already sell plaster casts of their collection and this has been a very popular feature with the tourists from India and abroad. Some people might dub it as a commercial venture, but I consider that every source should be tapped. Again, the selling of the post-cards, calendars, diaries, etc., would take the museum objects to every home and it would encourage more and more people to visit the museum. Thus, these reproductions give a wider publicity also, without much effort or expenditure.

In the case of the administration of the museums a comparatively junior officer, assisted by a Superintendent and other supporting staff, looks after the affairs of the museum. Smaller museums are run by a Curator, a clerk-cum-typist and some peons and guards. The museums have peculiar administrative and financial problems of their own but they are still governed by the general administrative and financial rules of the Central/State Governments. They are, therefore, always handicapped in their work. The museums have to organise exhibitions and also send exhibitions abroad which require substantial cash to make purchases, pay for transportation, packing material, porterage, etc. The heads of subordinate offices have very limited power to draw an advance and each case has, therefore, to be referred to the Department concerned for authorisation for drawal of advance. In the case of the recruitment of administrative staff, by and large, the reqisitions for filling up the posts, are sent to the Employment Exchange and the staff is taken on the basis of interviews/typing test, etc. There are very few channels of promotion of the staff which is recruited at the lowest rung at the clerks level. A clerk can, during a span of 20 years, aspire to become a UDC or after five more years a Head Clerk. Very few clerks will have a chance to become the Administrative Officer, the highest post on the administrative side in a museum, during their service. The Central Secretariat gives a chance at all levels for promotion according to the central seniority of the staff. Even otherwise the staff continues to change and the number of vacancies at all levels for promotion is much more than in the subordinate offices which are a closed unit for promotion. I would not be wrong if I say here that this has led to the second rate personal entering the administrative service of the museums, *i.e.*, those who could not find an entry into better services of the Secretariate. The museums are, therefore, handicapped from the very beginning with the administrative staff they have, and they are themselves to be blamed for it. Over the years, the academic side of the museums has increased manifold and the staff has increased. On the administrative side no thought has been given by the museums themselves to keep pace with the expanding activities to ensure that the supporting administrative staff is there to attend to their needs of preparation of pay/TA bills, purchase of display material and stationary and all routine items which are generally taken for granted. This is one reason why there is a log-jam in the administration of all museums. The academic side is not happy that their problems remain unattended to but then the fault lies not with the administrative staff but with the whole thinking on the subject.

The museums administrative staff suffers from another handicap. Once they join any museum they retire from the same organisation with hardly one or two promotion. On the technical side due to the expansion of the museums, the junior officers, have over the years, progressed to higher posts by virtue of their experience/expertise in their fields. No opportunity has been given to the administrative staff in this regard. They can only compete in the outside examination. But once they qualify they will be lost to the museum. The first and the foremost need for the museum is to provide better scales for their staff and training programme. While they can get training in financial matters at the courses organised by the Institute of Secretariat Training & Management, New Delhi, there is a need for training course about the development of the museum and how they should meet special demands in keeping within the financial rules. The staff has to innovate and devise methods to keep with the development, the organising of the exhibition and other museum work.

Another important factor is some sort of an exchange programme of personnel on the academic side as well as on administrative side with the other museums in the country. At present each museum is like a small dutchy functioning it its own way and their is no regular contract nor a body which provides a forum for exchange of ideas. Over the years the Government of India had constituted a Central Advisory Board of Museums which used to meet once a year. It was only an advisory body where some ideas were put forth but it had no administrative or directive force behind its pronouncement/resolution. Consequently the development of the museum has been stratified. Although other experts would deal with this matter I felt that if there is an exchange programme it should also be at the adminstrative level so that the administrative officers of various museums are able to exchange ideas on the administration and I am sure some good will come out of it. In regard to the co-ordinating authority, which I have mentioned above, there is a Museums Association—a professional organisation of museologists of different museums which meets once a year. It provides a forum for exchange of ideas and has done commendable work in publishing a small directory of museums but it lacks the official sanction to recommend programmes which can be followed by the museums. The Government of India also organises a Museum Camp every year in one of the museums in India where representatives of different museums are invited to participate. This provides a platform for exchange of ideas but even here there is no follow up action on the recommendations of various Museum Camps.

Another weakness in the existing museums is the security of the objects. After the Second World War people all over the world have invested money in the antiquities and suddenly there was a spurt of demands of Indian sculptures, paintings, coins and other objects. It is a fact that a number of objects have been smuggled out of the country and a number of museums have been the victim of thefts. The museums are not able to pay sufficient attention to their security problems because of lack of funds. Security means investment of money in security devices and recruitment of additional guards for which the museums should be provided with adequate funds.

To sum up, I feel that the administrative staff of the museums should be given better scales, proper training and there should be an exchange programme with other museums for a period of two to three months.

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10

REGISTRATION AND DOCUMENTATION IN INDIAN MUSEUMS

K.T. JOHN

In a recent issue of 'MUSEUM',[1] Evzen Schneider has drawn our attention to a statement made as early as 1883—almost a century ago—concerning Museology which it may not be out of place to reproduce here : "If thirty years ago anyone had talked or written about museology as a science, many people would have reacted with a compassionate or a contemptuous smile. Today this, is, of course, different". Almost all the countries in the West and countries such as Japan in the East have made substantial progress in various branches of museology such as presentation, conservation, popular education and indeed documentation. In India, we have lacked the courage to do an introspection and even today we cannot propogate museology with a firm conviction—nay the term has been regarded as a taboo in some museum.

Here we are concerned with just one branch of Museology—Documentation—particularly of art objects. In the context of discussing the problems involved in registration methods and documentation of art objects in Indian museums, two instances come to our mind which not only reveal the perfunctoriness in the maintenance of records but also the need for having systematic records of all objects that are preserved in museums and other institutions. The first one relates to the passing of the Indian Antiquities and Art Treasures Act of 1972 and the second relates to the series of thefts that shook many major museums in India during the late sixties. In fact, the first one was introduced as a corollary to the second.

Many outstanding objects were stolen from museums, institutions and monuments. However, the task of the police and other agencies who were engaged in tracking down the culprits and recovering the objects so lost became next to impossible because in most cases the concerned institutions were unable to furnish proper description of the objects, leave apart supplying photographs. Several instances could be cited where the loss was detected after a lapse of long intervals and it was not possible to say specifically since when the object was missing, nor when it was last checked.

The Antiquities and Art Treasures Act of 1972 was passed with the double object of registering all antiquities in the country and to regulate their trade. Section 14(1) of the Act provided for the registration of antiquities as specified from time to time by Government (except the ones kept (i) in a museum; or (ii) in an office; or (iii) in an archive; or (iv) in an educational or cultural institution, owned, controlled or managed by the Government) before the registering officer for the grant of a certificate of registration. The application form for registration of antiquities required the furnishing, among other things, such particulars as : (1) the name of the applicant; (2) address of applicant; (3) identification and description of objects with four copies of photographs in post-card size; (4) material; (5); size; (6) approximate date; (7) source of acquisition; (8) mode of acquisition; (9) date of acquisition; (10) price paid, if any; and (11) *a*. present location and *b*. condition of preservation and security.

Indeed no one had all these statistics ready to be furnished to the registering officer. But the irony of the situation was that while private collectors could furnish all this information, many institutions could not. The condition of museums which possessed literally thousands of objects was naturally precarious. Apart from the question of finding resources and men to compile all this information, the problem was also one of expertise in identifying and cataloguing the various types of antiquities about which hardly any information was available.

Though registration and documentation in a way has become a legal obligation in India and cannot be ignored any more, this is just one aspect of the problem because it affects only: (*a*) those objects which come within the purview of the Act, and (*b*) when compared to the systematic documentation that has to be carried out in a museum, the information to be furnished to the Government is only limited.

That museums are mere storehouses of antiquities and recluses of scholars is an idea which has been discarded long ago. This fact cannot be ignored by the Indian museums as well. Today the increasing awareness of the value of the objects stored in the museums for purposes of research, education, exhibition, publicity and advertisement, has put a heavy demand on the museums to furnish various kinds of information and research data that it is no more possible for museum personnel to treat the objects casually as has been done hitherto; otherwise the very existence of the museum would be questioned.

Documentation of museum objects has therefore become not only a legal necessity but its importance in the field of communication between one museum and the other, as also from each museum to all those individuals and institutions interested in the objects for various purposes, has been proved beyond doubt. Without effective and systematic documentation there cannot be proper communication. In order that a communication be in clear terms and without ambiguity it is very important that a minimum standard of uniformity is maintained for listing the data categories essential for documentation and inventory control. Authentic documentation of objects by a systematic collection of evidence is the present day need in Indian museums as otherwise the vast number of precious objects housed in many museums in the country would be of hardly any use even to the students, research workers and all those who would be wanting to make use of them in many ways.

An object without authentic documentation, in the words of Black[2], 'is essentially worthless'. Though this statement is applicable in respect of both the 'inherent' and 'attributed' data, importance is given more to the 'attributed'[2] data because 'attributed data can only be collected or recorded when the object is collected or brought to the museum for the first time and would be lost for ever if the person concerned would not be careful in recording them at that time while the 'inherent' data can be only lost with the loss of the object. To avoid such accidental or unintentional omission in recording the information on museum objects it has been suggested that the use of a pre-determined frame-work would be very helpful. Chenhall and Homulous[3] have given an exhaustive glossary for documentation of museum objects which is worth considering. They have also suggested the use of 'syntax', 'vocabulary' and time controls to bring uniformity. By syntax control it is meant that the data standard in that category must be recorded using a standard format such as YYYY/MM/DD for the year, month and day consistently using four digits, two digits and two digits. Similarly, vocabulary control is the use of data in that category of the words or other symbols that have been taken from a controlled authority which has already been accepted by the museums. The suggested use of syntax and vocabulary controls would be of great help in the proper recording of information and maintenance of the records. Let us take for instance the allotment of accession or registration number to the objects. The popular system accepted by many museums is the combination of the year, the collection number and the individual number, *i.e.* No. 78.1.4 is to indicate that the object is the fourth number in the first transaction taken place in the year 1978. In case the object has four separable parts, then they are further numbered as (a) (b) (c) (d). However, it has been observed that due to the non-observance of this sequence strictly many time .4 and (d) are used indiscriminately. In the long run this would create a lot of confusion while dealing with the inventory control and physical vertification as it would be very difficult to know whether .4 or (d) represents the fourth part of one single object or the fourth object acquired in the year 1978. Similarly, it would be easy to communicate if a common vocabulary is followed in describing the objects.

As far as the registration of objects in a museum is concerned, different systems are followed in different museums. However, the question comes if there is a proposal to change the existing system which is very difficult as it would involve a lot of extra labour and money to re-write the past records. It is, therefore, very necessary that before any system is adopted in the registration of objects, a proper assessment is made of the requirements of the museum as also the service that it is expected to render. In some museums the system is changed from a certain date in the hope that at least on some future date the back-log would also be completed though in most cases it remains undone. But it is desirable to think of effecting a change in existing system which is unsuitable at some stage so that at least the present and future records would be maintained systematically and the question would be only to take care of the past records.

No doubt there are advantages and disadvantages of any particular system that may be followed in the registration of objects and the choice is normally done according to the situation existing in a museum depending upon its size, the staff available and also the financial position. However, the following system suggested by Roychoudhury[4] seems to be suitable for Indian museums. It involves maintenance of : (i) a bound entry book for recording briefly all objects received and noting their return to acceptance as permanent collection; (ii) and accession register similarly bound with one-line entries and to supplement these by (iii) a loose-leaf book of identification catalogue-cards to provide exhaustive information on each individual collection of the museum.

It is the normal practice to accession only objects which form part of the permanent collections. Therefore, separate registers are maintained to record the entry and exit of objects received and sent out on a temporary basis. Depending upon the requirements of museum these can be further enlarged and separate registers could be maintained for outgoing loans, incoming loans, etc. Since accession register is the only basic record of the permanent collections of a museum, it is very important that it should be preserved very carefully. The system adopted by some museums to preserve a duplicate copy of the accession register in safe custody away from the museum premises is worth adopting as it would be very handy if something goes wrong with the original register in the museum or when someone tries to tamper with it.

The process of registration starts with the entry of the object in the museum premises and therefore a register to record the entry of all objects would be very useful to trace the movement of objects within the museum. In many cases when an object is brought to the museum, the purpose for which it has been brought is not clear. It is, therefore, very important to acknowledge the receipt of the object immediately laying down the conditions on which they would be deposited in the museum. Very often this aspect is overlooked as a result of which many complications arise at a future date with regard to the safety, ownership, expenses to be borne for the preservation, storage, and the eventual return of the object to the sender. The most embarassing but not very uncommon situation in this process is when an object has been received by the museum without specifying a condition as to what should be done to it when the museum's reasonable efforts to contact the owner or the lender to return the object after the expiry of the specified period would become unsuccessful or when the owner did not care to take it back. In the absence of a specific provision in the conditions it would not be possible for a museum either to dispose of the object or make any claim for its safe custody and preservation or refuse to hand it over to the owner or his successor if he claims it after a lapse of several years. As a result, the museum may be turned into a storehouse of some one else's objects and would also be held responsible for their safe custody and maintenance. To avoid this situation it is necessary that among other conditions an additional clause be also added that in case the museum's reasonable efforts to contact the owner or the lender within a reasonable period become unsuccessful and no special arrangements have been made to return the object, the museum reserves the right to keep a lien on the object in lieu of storage and insurance charges and to subsequently treat the object as an unconditional gift to the museum after a lapse of—say five years.

In the museums in Europe and America, documentation has become a specialised aspect of museology. In many museums there is a separate department to handle this job and in smaller museums at least one person is entrusted to do this work. By doing so it is easier to co-ordinate the work involved in different departments and also to bring uniformity in the systems that are followed. Since accessioning and documentation is an elaborate procedure involving the participation of several departments, maintenance of a check-list has been found very useful by some museums. This check-list (please see appendix) would enable the department concerned to watch the progress in respect of each object till the entire process is completed.

This task is an enormous one and quite often because of the demands of other jobs, the curatorial staff is unable to pay as much attention to this aspect as they ought to. At least in larger museums this handicap could be overcome by establishing independent cells or what have been generally known as the "Registrar's Department". The responsibility of this cell, as has been understood in major museums in the west, is to centralise all documentation work, and need no remarks here. An experimental beginning of such a cell has been now made at the Prince of Wales Museum under the supervision of the Registrar. It is hoped that other museums in the country would follow the lead which indeed is for the development of education, be it scholarly or popular.

ACCESSIONING CHECK-LIST OR CONTROL FORM

1. Person's name (last name in caps)..
2. Method of receipt :

   Purchased from ....

   Gift of ....

   Bequest of..
3. Nature of material :

   Archaeology (brief description) ....

   Art (brief description) ....
4. Number of specimens :

   (if large collection, estimate)..

Date Initial

5. Date received by whom (name of staff member)
6. Letter of acknowledgement written and mailed.
7. Accepted by Exhibit Purchase Committee/Trustees
8. Object listed, acc. data, history sheet, etc. prepared.
9. Object measured and weighed.
10. Object appraised.
11. Object numbered.
12. Object photographed :

    in black and white

    in colour
13. Storage or gallery location assigned.
14. Notes and remarks.

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11

MUSEUM PHOTOGRAPHY WITH SPECIAL REFERENCE TO NATURAL HISTORY

P.K. SAHA

The need of a photographic set up in an educational institution like a natural history museum is no denying. To develop each of the stages of educational communication through the museum calls for photographic work at every stage of planning and organisation. The wide range of photographic activities required in such an establishment, therefore, necessitates a full-fledged and well-equipped photography section.

Photography in a natural history museum comes into picture right from the stage when planning begins. And from then onwards it enters into different areas, both creative and experimental. In fact natural history museum photography is a whole ensemble of Nature photography, Commercial photography, Press photography, Indoor photography, Micro photography, Photomicrography, graphic art work, silk screen printing, Colour photography, motion picture, documentation, copying work, etc. Besides, its role in publicity and publication is equally vital. It also helps in making photographic records of different stages of development of work, participation of common men, children and students in various educational and cultural activities organised by museum, visits of the distinguished guests, etc.

Natural history museum photography for the purpose of education fulfils one of the major objectives of setting up such museums. It is correct to say, next to visiting, viewing of a good photograph is the only way to realise and appreciate an exhibit for which no description is adequate enough. Representing the exhibits with good monochrome and colour prints, transparencies, motion pictures is a rational and popular way of approach to the denizens of the far end. Arrangement of lectures to be delivered by the guides among the students with photographic representation of museum objects and exhibits and then to welcome them in the institution in a well-planned and organised form help to evoke interest and awareness among them. In this paper an attempt is made to describe the various aspects of the Natural History Museum photography.

Nature Photography : Nature photography, which is a part and parcel of natural history museum photography, contributes to the institution in two major ways:

(a) It depicts nature with all true details and accuracy, useful in re-creating an illusion of reality of nature within the four walls of a museum in the form of ecological exhibits. Photographic work in a museum does not confine only to copying or recording of what is exhibited. This excellent medium has utmost opportunity to depict a scientific system or give a thematic representation of nature with all natural details, depths and grades. Skilful choice of theme, selection-of light sensitive materials, and the appropriate technique of display can produce marvellous results. Thoughtful implementation of excellent achievements in the field of colour photography can add a new dimension to modern display technique. Proper display of images on printing materials is, in these days, well recognised and much appreciated.

(b) It gives very useful visual informations to other media like modelling, painting, exhibit fabrication, etc.

For successful nature photography one has to adjust with different weather conditions. He must be well acquainted with nature and natural habitats. Patience and ever readiness are the most desirable qualities for a man behind the camera in the field. Selection of proper site for hide-outs is also important. Focussing lens in a split of a second, determination of exposure, keeping in mind the depth of focus depending on the lens in use as well as the nature of the object aimed at are always desirable for good results. The most desirable quality of a nature photographer is the vision of his third eye. Success of nature photography lies not in taking a picture of an animal or a flower but in shooting a new picture of an animal or a flower that has been recorded many times before.

In the Natural History Museum photography to maintain a rhythm with design and display even the most successful snap shots have to under go certain amount of changes related to its composition and form. Its accommodation in the pre-designed space and form without the slightest deterioration of thematic expression is a problem to solve.

Extensions and reversion of backgrounds often become necessary when a snap shot exposed vertically while clicking needs to be composed horizontly or *vice versa.* When the external shape of a showcase designed for back lighting the enlarged positive images on transparent base materials is mounted like a shell, lots of practical difficulties appear in accommodating a photograph without losing its thematic vividness. Proper application of grey transparent dye or new coccene dye in desired areas of the negative image or occasional reduction or removal of basic emulsion from a specific area of the negative image and such other application of meaningful dark room techniques are a few main keys of successful museum photography.

Dioramas : Snapping dioramas is one of the major assignment a staff photographer has to do.

A diorama is a rectangular enclosure with a curved background, a three diamensional foreground and front glass. Presenting exhibits in their natural habitats, making a perfect illusion of reality of nature is the sole aim of a diorama. To catch this creation of illusion by camera the following factors are to be considered :

1. How to calculate correct exposure.
2. Problems relating to the depth of focus.
3. How to get a level horizon.
4. To find out the way of avoiding glares, reflections, etc.
5. How to obtain a correct perspective.
6. Whether or not to use additional illumination while photographing dioramas.
7. To find a way out of eliminating the deterioration of images of the edge areas.

Generally, beams of light travels almost in 45° from upper edge of the front glass. This is the obvious cause that the foreground objects are less illiminated than the sky area. Determination of exposure on the basis of intensity of light reflected from the foreground objects burns the background, specially the sky area completely. Alternative treatment causes a silhouette effect on the foreground objects.

An average exposure perhaps is the solution. Practice and experience are required for attaining success. Retouching of negatives and proper utilisation of dodging technique help to a great extent.

Problems relating to depth of focus should be overcome by necessary stooping down the lens.

To get a level horizon and to catch hold of correct perspective the camera stand should be placed in the centre point of the horizontal length of the diorama and the taking lens must be placed at the height of five feet, the standing point upon which the entire perspective is designed. The five feet is the average eye level of the visitors.

To get rid of reflections and glares is a difficult problem. The best solution is to photograph dioramas before framing or after removal of the front glass. Where removal of glass is not permissible or possible the following methods can be tried for.

Without aiming the whole view a high lighted portion free of glares, etc. can be the target.

To put a strong and additional light source inside the diorama, of course, if a way is traceable to put it inside as generally it is closed from all sides. Through this way a picture free of glares is possible. The additional light source ruins the original light and shade effects.

Using of polarising filters in front of the taking lens helps to a great extent to eleminate glares and reflections where they are of minor existence. Reflections from metallic surface cannot be resisted with a single polarising sheet. It needs to introduce a second piece in front of the light source. But the reflections and glares inside such a gallery are so bright that polarizing filter often cannot remove them completely. However, if a polarised filter is used the exposure is required to be approximately doubled as a major part of the light is absorbed by the filter.

Consciousness to arrange individual electric switches for each of the showcases and dioramas and distribution of such switch boards in easy reaching place while planning the display and designing is the only rational and scientific solution.

Recommendation of using additional source of illumination should be resisted while photographing a diorama. This might inadvertantly affect all light and shade effects provided in the diorama. Proper utilisation of bouncing or reflected light helps to a great extent to maintain the sharp details of shadow areas.

Using extra wide angle lens causes deterioration of images of edge areas. This is because it is obvious to use mid wide-angle lens.

Lack of optimum undisturbed vacant place in front of dioramas and long panels is an obstacle for photographing properly. Curved background causes scarcity of depth of focus and to get the images of edge areas in a single frame alongwith the whole view is really problem. A good solution lies in screwing or mounting a mid-wide angle lens. The position of the camera should be in required minimum distance for having the full view and objects of the edge areas in focus even after suitable stooping down the lens aperture. It is worth mentioning here that the camera to be used inside the gallery of a natural history museum must be supported by camera-stand and equipped with all accessories required for time exposure. Exposure time inside the gallery of a natural history museum often varies from one second to several minutes (Pl. 41). And this is one of the uncommon feature of photographing inside the gallery of a natural history museum.

Documentation work : Documentation work is vital and important in any museum. In a natural history museum innumerable zoological, botanical and zeological specimens are the target of reserve collection unit, nucleus point of interest for the research scholars, evoke curiosity among common mobs, and delight the interest of the students. It is necessary that these specimens be properly identified, recorded and stored.

While photographing such specimens, it is necessary to maintain the variety of their grades, shades and details. Slow speed film, and extra fine grain developer must be used for this type of work. The background should always be darker than the specimens and proper care to make the print adequately contrast should be taken (Pls. 42-43).

Arrangements of light source need to be proper so that switching on the illumination unit does not cast any undesired shadow on the background. Close-up approach to the objects is wanted. Camera with bellows extension facilities serves very useful purpose.

Photomicrography : Photography taken through the lens of microscope is photomicrography. In this case, it is necessary to remove the normal lens of the camera and replace it by a light-tight tube which connects the camera and the eye piece of the microscope.

Photomicrography has plenty of useful need in a natural history museum. For research work and educational purposes preparing slides of botanical, and zoological microscopic elements are required. Sophisticated modern microscopes are, in these days, equipped with a very compact camera attachments and all the modern professional cameras are so designed that these can be easily attached to any microscope. For sharp focussing and good results it is to be ensured that illumination source either be direct sunlight or strong arc lamp specially available for this purpose or built-in microscope illuminators which emit a very intense light. It is good to make some arrangement to place the microscope on a copying board. Such boards are always facilitated with proper arrangement of illumination unit and screwing the camera with a stand which carries the weight of the camera body. To determine correct exposure is the prime theme to be borne in mind for optimum results. Experience, practice and making useful tests before the final exposure can only help to calculate correct timings. Today, of course, it is possible to obtain instantly the exposure factor by means of a selectrine and integral measurement of the image on the ground glass with the aid of focusing and measuring bellows and CDS exposure metre.

Copying : Copying of illustrations, text portions from different books and references are frequently needed not only for natural history museum but in all such types of institutions. A camera with proper bellows extension tube is the primary need to meet the variety of demands of this kind of job. Close-up snap with sufficient stopping down the lens aperture, using considerably slow speed film, developing the film in extra fine grain developer, at 20°C using medium contrast developer for paper, very accurate selection of grades of paper for a particular negative are few constructive steps to ensure good result.

Gallery views : For a good photographic representation of general views of gallery and long panels it is always desirable to attempt in colour. Photographing these with monochrome materials very often cannot produce good results. Modern super sensitive colour materials respond in every minute detail of shades and grades. This is a much required quality to study properly the rhythm of the colour combination which plays a prime role for display and designing art.

Selection of proper angle for a proportionate perspective which depends on individual's choice is half success for such clicks (Pls. 44-45).

Focusing the lens to the long panels refers to the difficulties of getting optimum space. Often extra wide angle lens cannot include the whole panel in a single frame. To my mind the best solution is to expose such long panels with normal lens by three or four shots and join them together. This will maintain photographic details and also provide good reproductions, though in this way perspective will not be accurately perfect (Pls. 46-47).

Translites : Positive image recorded on transparent base light sensitive material is translite. Such materials in these days are being very commonly used in every branch of photography. In fact, it is much impressive than paper back materials. For monochrome prints three materials are popularly known as diapositive films and in colour they are termed printing (m) materials. Like colour and unlike black and while material the black and white diapositive films have only one available grade. This is the obvious cause to maintain the contrastness of a print either by using different types of developer or preparing standard contrast negative suitable for the available grade. The black and white translite can then be painted with transparent water colour.

The printing (m) material has to under go the same treatment as paper for colour printing requires. Where as printing (m) materials ensure excellent details, grades and shades, to protect them for a long period from heat and humidity is difficult. Black and while diapositive translites are better durable than colour translites.

Two formulae of developer for black and white diapositive films are given below. For obtaining good result these can be tried for :

1. *Low contrast developer.*

Water	— 750 cc.
Metal	— 1 gm.
Sodium Sulphite (powder)	— 15 gm.
Hydroguinone	— 3 gm.
Sodium Carbonate (Powder)	— 25 gm.
Pottassium Bromide	— 2 gm.
To make 1000 c. c.	
Developing time	— 2 to 3 minutes.

If necessary this can be used after filtration.

2. *Medium contrast developer.*

Water	— 750 c.c.
Metal	— 4 gm.
Sodium Sulphite (dry)	— 130 gm.
Hydroquinone	— 16 gm.
Potassium Carbonate	— 70 gm.
Potassium Bromide	— 6 gm.

To make 1000 c.c., Developing time 1.5 to 3 minutes

Ratio of the working solution— 1 : 1.

Developer as demanded by the contrastness of the negatives can be prepared by adding the proportion of metal which brings soft effect and wider range of grades while increasing proportion of hydroquinone tends to increase the contrastness.

Graphic Art : Preparation of negative and positive prints on graphic art or lith films are required mainly for lining work and silk screen printing. These films are orthochromatic by nature. Process cameras and their accessions are must for smooth processing of such work. The films exposed either by camera or enlarger are developed in lith developers and fixed in traditional hypo solution. Preparation of lith developer and their storage deserves special care. There should be two sets of storage bottle, one set marked with Sol. A and the other with Sol. B. The two sets must be kept away from each other. When working solution is required to get ready, equal parts of solution from each group is mixed up.

Silk Screen Printing : Whereas this excellent method of printing has multiferious application in the galleries of National Museum of Natural History, New Delhi, this method is being used to print the text portion of dioramas and exhibits, etc.

The silk screen coated properly with a light sensitive solution of Ammonium Bichromate and silkote is kept in a dark dryer. After drying, a contact print of the negative image is prepared on graphic art or lith-film to make the silk screen. The process includes exposure of the coated stencil either in sunlight or, arc-lamp or fluorescent lamps. After the treatment of accurate exposure the frame is transferred in normal tap water, and developer for the coated solution. The unexposed portion is washed away making the stencil ready for use. Application of printing ink through the stencil is the only remaining need to get the text portion printed in desired place.

The method described above is known as 'Direct Stencil Process'. Besides, there are two more processes called "Sensitised photographic film stencil process" and "Pigment paper film stencil process". All these methods of preparing stencil are popular. I, personally like "Direct coating stencil process" to take the advantage of dark room and film dryer for coating and drying the stencil and thus complete the whole process in a considerable less time than any other process.

Solution for Direct Coating : A solution of 5 gm. Ammonium Bichromate and 25 c.c. water is kept ready in a small glass pot.

100 gm. of silkote is mixed up properly with 3.5 c.c. of the above mentioned stored solution of Ammonium Bichromate preferably in dark or very dim light. The prepared solution is then coated on either side of the silk screen with rubber squeezee and left for drying in dark. Exposure time which varies from one minute to six minutes depends on the source of light—whether sunlight, arc-lamp or fluorescent tube.

As soon as the printing work is over the screen can be washed out with Amyl Acetate or Bleaching powder after scraping off the surplus colour and be kept ready for next coating.

Colour photography : Initiation of distinct and constructive effort to set up an additional wing to the existing black and white section for processing colour materials in a museum of this country is a very difficult task. Whereas almost all the museums of the country are having their own photographic arrangements, I doubt if there are three or four units out of the four hundred existing museums where colour materials can be processed. Probably lack of proper realisation of its importance and utility in such educational and cultural institution is the basic cause of its rare existence. Want of ardent interest for financial investment, lack of easy import system which compels to consider the necessary accessories and materials out of reach, absence of needful provision of training facilities, want of useful information of the latest details of development in the field are a few problems.

In a museum like the Natural History, attempting photography missing the colour of the objects is wholly an incomplete job. It is needles to say anything about the unsubstantiality of photographing Nature without her colour. The eternal beauty of Nature is always glorified by her most precious ornament—colour. Any endeavour to represent the Nature photographically or by any other media without any attempt of reproducing her colour is unfortunate.

Exposing colour films meant for artificial light in day light or *vice-versa* and sometimes against the will of the man behind the camera in mix light should get professional treatment. Focusing the lens of a camera loaded with colour films in mix light should always be consciously resisted. Screwing or mounting a conversion filter in front of the taking lens is most desirable for professionals need to expose a daylight film in artificial light or *vice-versa*. Filter factor engraved on the ring of the filter should be taken into consideration while determining exposure. Treatment of colour films by very accurate exposure is demanded for good results, specially for colour prints, as unlike black and white, an under or over exposed negative is directly rejected by colour paper it self. Expecting brilliant results of inside gallery and diorama shots on colour materials refers also of those problems which have been discussed above in connection with monochrome prints.

Motion Picture Photography : It is necessary for the purpose of publicity, education and carrying the message of the institution outside the four walls of the museum. A very compact and efficient wing to fulfil the needs of the institution is worth having. Filming museum objects by the departmental staff has other useful aspects besides lightening the financial burden. Cinematographic presentation of museum objects has its own direction of art which can be better perceived by staff working in the atmosphere. Whereas setting up a cinematography unit is very expensive, its span may be kept within the limitation of necessity of the institution.

Filing of Negatives : The photography section of the National Museum of Natural History, New Delhi, is dealing at present with wide variety of negative materials, ranging from single frame 35 m.m. panchromatic to yards long graphic art materials. Proper recording, filing and indexing of these negatives is an important task.

Each of the negatives is required to be marked technically with India ink in the corner and the same needs to be repeated on the envelope where the negative is likely to be kept. Details of date, place, subject, weather conditions, name of the photographer should be available on the envelope. In case of a copy-work necessary technical details of the specimens or illustrations is also to be mentioned on the envelope. Attaching a contact print on the envelope also serves many useful purposes.

Certain general considerations : Lack of training facilities, scarcity of materials, cameras, and accessories are causing acute problems to develop this medium of art up to the mark in comparision to other countries. We do not have any outstanding accessories of our own make nor we are free to import the equipment of our need from abroad. However, these problems have been discussed at various levels and we are optimistic to overcome these difficulties in the near future (See Pls. 48-51).

Suggested Reading

1. Neulette, C.B., *Photography : its Materials and Processes*, London, 1963 (6th. edition).
2. Allen, Roy, M., *Photomicrography*, London, 1959 (2nd. Edition).

emulsion is directly coated on colour paper itself. Expecting brilliant results on a [illegible] because [illegible] material, refers also of these problems which have been discussed above in connection with monochrome prints.

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Suggested Reading

1. Neblette, C.B., *Photography—Its Materials and Processes*, London, 1962 [illegible]
2. [illegible] Roy, M., *Photomicrography*, London, [illegible]

12

AN IDEAL MUSEUM LIBRARY

BALKRISHAN

Museums all over the world build up libraries with special collections of books and non-book materials so that they may be able to play their role as research and educational institutions successfully. During the course of centuries, museums have evolved distinct roles for themselves. To-day, the basic functions of a modern museum are to acquire an authentic collection of objects pertaining to its specialised field, to conduct research and to communicate the values and significance of the collections to the people for their education, enlightenment and enjoyment.

The museum is indeed a living lesson in the disciplines in which it specialises, for, here the visitor will find superb collections presented in a lucidly understandable way. The collections are indeed artistically exhibited and intelligently presented to arouse interest in their significance and to educate the visitor. The visual representation makes great impact on the minds of the visitors. The museum also evokes and supports scholarly research whereby new knowledge is generated and old knowledge is reorganised. The results of the research are made available to scholars and the general public. The museums hold rich collections. These collections, if properly studied and interpreted, can make substantial and significant additions to the sum total of human knowledge. Unless a museum promotes and conducts research in the materials that it has and brings out the qualities inherent in them and publishes proper publications namely guidebooks, hand-lists, catalogues, monographs, memoirs, journals, etc., it cannot project its collections, their importance and significance as valuable resource materials for advancing knowledge. Indeed, a good museum promotes learning and education by paying attention to the interpretation of its rich collections. Accordingly, there is a distinct need for interpretative scholarship in a museum.

For such an end and purpose of a museum, a well-equipped research and reference library is an essential pre-requisite. The library is the bed-rock on which the super structure of museum research and education is based. It is the fountain-head for research. It also acts as a catalytic agent in arousing interest in the collections and exhibitions of the museum among the literate visitors, the intelligentia as well as the students who are now visiting museums more often than ever before.

For the museum curators and other professional staff, a museum library is a sure means of keeping abreast of studies undertaken in their fields throughout the world and the latest advances in the subject of their specialisation. To them, it provides a forum for self-study.

In order to meet its primary obligations to the scholar, the researcher, the curatorial staff and the connoisseur, a museum must possess a well-equipped library to enable them to conduct meaningful research. An ideal museum library should undoubtedly augment the resources of the museum and help it in a big way to play its principal role of promoting study and research, diffusing and disseminating knowledge, fostering learning and advancing education. Thus a library which is designed to promote research, scholarship, indepth studies in museum collections and is largely able to meet the varied needs of a veritable research centre like a museum may be called an ideal museum library. It should make the museum a dynamic institution by lending academic support to its programmes.

Scope, Aims and Functions

An ideal museum library is primarily meant for the curatorial staff who are expected to do research work on the superb collections they hold, write articles and publications of popular interest as well as of scholarly content, plan thematic exhibitions, prepare authentic labels and exhibition catalogues and write detailed catalogues of the unique collections. Library helps them in their research needs and identification work.

It also caters to the needs of research scholars doing their doctoral thesis or post-doctoral work, academicians, specialists and scholars writing books and scholarly articles on subjects covered by the museum.

Members of the museum-sponsored educational courses as well as visitors seeking information in regard to individual objects in the museum or materials on various subjects with a view to deepen their understanding of the objects they have seen in the galleries can also be served. Similarly, a museum library can also take over public library responsibilities in its specialised subjects. But these facilities to the general clientele should only be provided if the library has adequate accommodation, funds and large staff to serve them. This facility is likely to be misused particularly in art libraries where valuable and rare books are rendered useless by unscrupulous readers by pinching illustrations. A museum library should, as a rule, be open to approved research students and scholars only.

The library should be primarily meant for research and reference. Its aims and objectives may be generally put as follows :

1. To build up an intensive and judiciously selected collection of books and non-book materials relevant to the special collections of the museum and

to make it readily available for use through an efficient service based on the principle of "the right book to the right reader at the right time."

2. To act as an active study and research centre and to promote research by providing reference and research facilities.
3. To aid and to assist researchers by providing requisite literature.
4. To compile and supply special bibliographies and to render documentation and reference service.
5. To serve as an information bureau and to answer the specialised information needs of museum staff and the research community at large.
6. To arrange inter-library loans with various libraries.
7. To whet and satisfy the appetite of the visitors seeking information or deepening understanding of the museum collections.
8. To provide necessary forum for self-study by the curatorial staff and to keep it abreast of latest research in its special fields.

The term 'documentation' may be defined as a process of locating, collecting, classifying and disseminating specialised knowledge with emphasis on micro-documents. It involves several processes.

Reference work has been defined as "sympathetic and informed personal aid in interpreting library collection for study and research," by James I. Wyer. The A.L.A. 'Glossary of Library Terms' defines it as "That phase of library work which is directly concerned with assistance to readers in receiving information and in using the resources of the library in study and research". According to Dr. Ranganathan, "Reference Service is personal service to each reader in helping him to find the documents answering his interest at the moment, pin-pointedly exhaustively and expeditiously". There are several definitions of bibliography. Generally speaking, it is "the technique of systematically producing description lists of written or published records".

A learned bibliographer can always assist the literary scholar by providing systematic bibliographies. The bibliographical work consists of two parts, *i.e.* the research part and the technical part. Firstly, the material to be included in the bibliography is to be discovered and secondly, that material is to be arranged on a rational basis.

Special features

An ideal museum library may be said to differ most sharply from other libraries in respect of its : (a) specialised collections of books and non-book materials such as art slides, (Pl. 52) coloured reproductions (Pl. 53) and photographs, (b) special clientele, and (c) personalised services, for, it maintains excellent and intensive collections in special fields and gives a very effective library service to a select group of users. It lends very active support to museum curatorial staff in curatoring and exhibiting the collections and in arranging thematic exhibitions.

Museums often arrange special exhibitions and on such occassions the library is required to render a lot of reference service and to supply relevant literature and published information. At times a museum library itself has to put up an exhibition of books to supplement a thematic exhibition arranged by the museum. It provides research and reference facilities in its fields of specialisation that can be equalled nowhere else. It renders personalised service to a special type of clientele. Thus a museum library, unlike other libraries, is the main source for highly specialised materials for use by a special class of researchers and users. In short, the library helps the museum to get recognition from the intellectual world for its scholarly contributions.

Collections

To answer the information needs of scholars and the research community at large and to meet the varied needs of the museum departments, an ideal museum library should have handsome collections of standard works of research value and intrinsic merit, on all subjects covered by the museum as well as on allied subjects. They should be capable of meeting the demands of the users. No subject need be neglected and all authoritative works on various subjects should be acquired, so that the library collections are balanced, up-to-date and quite comprehensive in the field of its specialisation. The library should, as a rule, keep all 'Quick' reference works such as standard encyclopaedias, year-books, directories, dictionaries and multi-volumed works of authority. The collections should consist of not only the basic reference tools but all the resource materials needed for the most advanced research. Besides books, a large number of important journals, both Indian and foreign, should be subscribed to so that the researchers are kept fully posted with the micro thoughts appearing in periodical literature. The 'back files' of all important journals should be acquired, for, in a research library they constitute a very important source material for researchers (Pl. 54).

An ideal museum library should hold not only rich collections of books and journals but also pictorial materials such as photographs, coloured reproductions, and slides for educational and research purposes. A representative slide collection is indispensible for illustrated talks. Discourses on art history only become effective and meaningful when they are properly illustrated with the help of coloured slides. Similarly, the photographic reference file of unique works of art in various collections not easily accessible and a good collection of coloured reproductions of supperb masterpieces of art will be of real value and help in the library. As it is not possible for all museums to acquire original works of the great masters, a collection of coloured reproductions can to a great extent serve as a good substitute (Pl. 53).

The maintenance and servicing of pictorial materials thus becomes a necessity in a museum library in keeping with the museum's over-all purposes.

In keeping with the general practice, books would be required both for loaning to various departments of the museum as well as for consultation in the library. It is, therefore, desirable to acquire atleast two copies of certain standard and basic books so that various needs are effectively and adequately met. A good deal of material of interest appears in newspapers, etc. It would be worth its while if a museum library helps the museum departments in building up "Press Clippings Files" of emphemeral materials for use in their acquisition work as well as for general information.

Budget

The source materials of an ideal library, especially an art library, are very costly. A medium-sized library needs to acquire nearly 3000 titles every year in order to keep its collections up-to-date. Museums should, therefore, make liberal budget allocations for purchasing books, journals, non-book materials and other accessories required to meet the needs of an ever growing institution. It has been experienced that at least a grant of one lakh rupees is necessary every year to meet the barest needs of a fairly established museum library. The annual budget grant should be adequate for proper growth and development of the library. As a rule, the library collections should grow vigorously by regular and systematic additions in step with the museum collections and requirements. A significant part of total allocations of the museum may be allotted to the library every year.

Size

The changing concept of the museum as an educational and research centre has resulted in the phenominal growth of museum libraries all over the world. The National Art Library in the Victoria and Albert Museum in London which has over 3,00,000 volumes is perhaps the largest special art library anywhere in the world. Of the six largest art libraries in America, three are museum libraries. The Musee Guimet in Paris possesses a collection of over 50,000 volumes. Similarly, well-known museums in America have libraries with collections varying from 25,000 volumes to 1,00,000 volumes. The character and size of the museum are the two factors that account for the size and the growth of its library. A Science or History Museum library may grow more rapidly than an Art and Archaeology library because the specialised publications in these subjects are rather limited. It may be mentioned that mere size of the library collection should not be the main factor in evaluating its importance. The quality of service and the type of clientele served by the library rather than the quantity of books in the library should be taken as the correct standard to measure the importance of the library. "Library is a growing organism." Hence the size of the library in terms of volumes need not be emphasised too much in according it a proper status; rather the quality of service to the specialised clientele should merit major consideration. If the library renders research and reference facilities to researchers doing doctoral or post-doctoral work, it must be accorded the status of a full-fledged department, like other main departments of the museum.

Co-operation

As a result of 'knowledge explosion' in the recent past, there has been a tremendous growth of literature both in macro and micro forms. No single library can passibly afford to acquire all works required for research work even in its own specialised fields. Then there are rare books which are not easily available at reasonable price. To enhance the efficiency of their services, libraries resort to mutual co-operation in the form of inter-library loan service. Thus the researcher in a particular library can use the books available in other libraries through this service. A museum library should arrange this service with institutions specialising in cognate and allied subjects, so that the cause of research is freely supported and the resources of different libraries become available to the researcher without much difficulty.

Book Selection

The selection of the collections in an ideal museum library should be made most judiciously, for, it is the collection which gives the library its character. A policy of building up the collections by regular and systematic additions should be established so that the latest works become available as soon as they are released for sale.

A large number of sources for selecting books are available, for instance 'British National Bibliography', 'British Book News', 'Books in Print' and 'Subject Guide to Books in Print', 'Book in Series', 'Paper Bound books in print (Bowker)', 'Indian National Bibliography', 'Reference Catalogue of Indian Books in Print', etc. Besides, one can refer to bibliographies in books, subject bibliographies, book reviews in journals in specific subjects and newspapers, the publishers' catalogues and check-lists of booksellers. But it is better to get the books on approval, from booksellers and then make selection. This method, it has been observed, helps in making proper and judicious selections of books. It is not always wise to select books on the basis of reviews alone, for reviews may not always be objective. A good book at times gets unfavourable review from half-baked critics. For selecting periodicals, "Ulrich's Periodical Directory" and 'Bowker Serials Bibliography', 'Indian Periodicals Directory', 'Indian Periodicals in Print', 'Directory of Indian Scientific Periodicals', etc. may be used. For reproductions one may refer to the catalogues of reproductions of paintings published by UNESCO. Similarly, a good collection of art slides, in UNESCO's World Art Series, has been made available for purchase by UNESCO. This listing is only illustrative, various sources of acquisition of all types of materials should be utilised.

Classification and Cataloguing

An ideal museum library or for that matter a good library should keep its collections in a classified order of subjects and must have well kept up catalogues at the command of the users for quick and effective retrieval of information. For classifying the collections, one of the scientific schemes of classification may be used. The governing principle underlying classification is that it should group the material in a helpful filiatory sequence.

A classified library is a great help to the researcher and the users as it makes available books in subject groups. It offers a wide choice of alternatives when the book sought is not available and also focusses attention on latest books on all subjects. The 'Decimal Classification' which is used by a large number of libraries can be suitably adapted to meet the special requirements of a museum library. In fact, a number of libraries have expanded certain schedules to meet their special requirements. The National Museum Library has already expanded certain D.C. schedules namely on philosophy, religions, art and history of India. These have been published. If desired, the 'Colon Classification' can also be used.

The key to the library collections is its catalogue which is "the most important reference tool in the library". It records reading materials in the collection of a library and helps the readers and the staff to locate the desired material expeditiously. It is designed to answer a variety of questions. It should, therefore, be well constructed. At the outset, it may be decided whether the library should have a dictionary or classified form of catalogue, for, varying views are held by different libraries in regard to their relative merit and suitability. In a research library where the approach of the researcher is by subject, the demands of the readers can be expeditiously met with the help of the classified catalogue as it arranges its entries in a systematic order of subjects. It unfolds a complete and full view of all the materials on a specific subject in all its ramifications. It provides a wider survey of the various subjects and portrays readily the strength and the weakness of a library both in specific subjects and also in broad classes. A researcher working on allied topics will find it very useful as entries for books on closely related subjects will be found in it in close proximity. Hence researchers pursuing research in a wide branch of knowlege will find it very helpful. It also helps in compiling subject bibliographies quickly and exhaustively.

The classified catalogue is useful not only to researchers but also to the library staff as it can check the possibility of building up an unbalanced library collection. A 'subject index' may, however, be provided to facilitate its use so that even the uninitiated user may find the appropriate class number easily.

An ideal museum library, which is primarily a research library, should therefore go in for a classified catalogue. Besides, an author catalogue may be maintained to satisfy readers interested in books by particular authors. Most of the demands of the users are met by the author catalogue. It may also include title entries of certain works to help a particular class of readers, who may prefer to look for certain books under their titles and also include entries for series, editions, compilers, translators, etc. Libraries get books which are either devoted exclusively to specific subjects or are multifocal and treat a variety of subjects. The library catalogue must bring out the wealth of information on given subjects lying hidden in multifocal works by preparing 'subject analytical entries' or "gross reference entries". These entries would serve the cause of research better and make reference service efficient.

The second point that merits our consideration is the physical form of the catalogue, whether it should be on cards or in book form. The book form is now considered primitive and the card form modern. The single-entry single-card method is very flexible and helps the library to handle additions and withdrawals easily and neatly. The catalogue can be kept up-to-date. A museum library should, therefore, have the 'card catalogue' because it is very serviceable.

Functional Building

"A good book collection demands satisfactory housing". It is therefore necessary to house the library in spacious and extensive premises, specially and aesthetically designed for it. While planning library building, it should be borne in mind that a library is a growing organism. Hence its space requirements may be considered in relation to present and potential needs. The library premises must have extensive accommodation for stacks that can be enlarged when needed to accommodate the ever growing stocks of the library, otherwise it will find it hard to maintain itself properly after a growth of a few decades, a Reading Room where at least 50 readers can be accommodated, a number of study cubicles for scholars and serious researchers and a lounge for relaxation and browsing around. In case the library is to be housed in a large hall, it should have vertical galleries in two/three tiers on all the four sides, for stacking books. As provision of ideal working conditions results in promoting the working efficiency of the staff, a number of rooms may be set apart for the staff. The relationship between various rooms of the library should be functional. The library should have only one entrance and exit point for economy of operation and ensuring security. There should be provision for adequate natural and artificial lighting. There may be sufficient number of windows to light the reading room in the day time. As a matter of fact most of the areas in the library should have day light but reading spots should have direct spot lighting also. It would be better to have fluorescent tubes as they give shadowless light. The library should be well furnished and the furnishings should be attractive and inviting so that researchers feel attracted to make use of the library. The furniture should be comfortable, dignified, of beautiful design and hard wearing. Chairs should be cosy to sit on for a long period at a stretch. Readers appreciate chairs and tables designed to give comfort both for reading and writing. The library should be air-conditioned so that it may offer ideal place for studies. Moreover air-conditioning protects the reading materials from physical deterioration. It has been observed that "air-conditioning in the strict sense means the simultaneous control of eight factors, *viz.*, temperature, humidity, air-motion, air-distribution, dust, bacteria, odours and toxic gases." The atmosphere in the library should be congenial. The surroundings should be quiet. Noise should be completely avoided, for, quieter surroundings are very conducive to serious study. Library should have academic environment all around. In short, the library quarters should be sumptuous and must have a touch of elegance in all respects so that those who come to persecute studies and carry on research feel pleasure in spending long hours in the library.

Staff

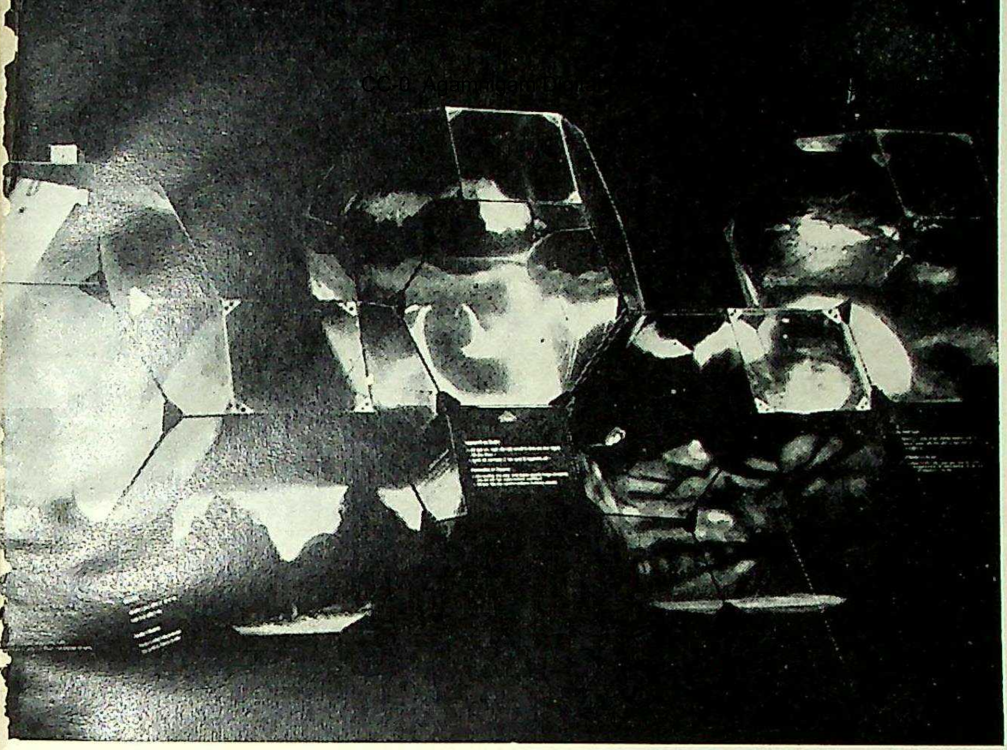
"Time was when anyone found not fit for any of the established professions was considered sufficiently qualified to take a career in librarianship". Fortunately, this idea is no longer current. The profession is attracting top-notch personnel now. They have been accorded academic status and are rightly considered as information scientists. They have been generally equated with the faculty members in terms of salary and status. Indeed the success of library depends primarily on the quality of staff. An ideal museum library must have adequate, efficient, trained and experienced staff at different levels to exploit the stocks to its fullest advantage. It is no "exaggeration to say that the resource materials in a museum library depends on the skill, professional competence, academic attainments and adequate strength of the library staff who would introduce the users to 'specialised information sources'. The staff should, therefore, be knowledgeable in exploitation of specialised materials by special readers and adept in the special subjects of the library so that they are able to place the right book or right information into the hands of the researcher pinpointedly and expeditiously. Further, non-book materials which have special importance in the collections of a museum library, tend to set complex problems. These special materials require methods of filing, preserving, processing and handling for use which are different from methods used for books. To organise and to administer properly these special materials, the services of staff with requisite proficiency are needed. As the work in a museum library is quite demanding, it is, therefore, absolutely necessary to have staff with good academic background in the subjects of the museum, competency in library techniques and rich experience. To meet the special requirements of the library jobs, it is desirable to prescrible same academic qualifications for library staff as are prescribed for the curatorial staff in the museum plus professional qualifications and good experience of working in a cognate specialised library.

An ideal museum library should not only be well-stocked and well equipped but well staffed also. A good book collection, special users, a sumptuous building and adequate library staff, these four elements jointly constitute an ideal museum library. The number of staff to be employed is determined by the standard of service desired and the need to perform various functions essential for operating the library. If it is expected to take full service from the library, it must be provided with adequate trained staff in different cadres including janitors who could constitute functional sections to perform various functions such as selections, acquisition, classification and cataloguing, indexing, recording, issue and receipt, serials and journals, reference and documentation work, maintenance of non-book materials, etc.

The status and pay scales of the library staff should be at par with that of the curatorial staff. This parity is maintained in the British Museum where there are separate departments of the library as well as antiquities. "They are not all equally large but they all have equal status." This healthy practice should be followed by the museums for their libraries. In all fairness, status of library staff should correspond to the status of the personnel in other museum departments. This will certainly result in the establishment of first-rate libraries in museums for rendering excellent services to the community in return. The museum authorities should also ensure that the malady of "acute stagnation" does not afflict library personnel and they too get avenues of promotion and advancement like other museum personnel. The library and its staff must be given rightful place in the administrative set up of the museum. It need not be made an adjunct of any department but should be treated as an independent unit.

Conclusion

An ideal museum library supplements and complements the functions of a modern museum as a living centre of education and research. That is why, "Great Museums have become the holders of some of the greatest libraries in their fields." But very few museums in India have really good libraries which can meet the requirements of research scholars. "Good libraries do not exist in our museums and they require to be strengthened". It is, therefore, essential to take steps to establish really good libraries in our museums and it is hoped Indian museums will pay special attention to the development of their libraries so that they are truly able to play their role as dynamic centres of research. Thanks to the vision and idealism of Dr. Grace Morley, the first Director, and her worthy successors, the National Museum has succeeded in establishing a first-rate library of Art and Culture which has been growing steadily and systematically and also giving an excellent account of itself as an active centre of research and temple of knowledge, even with a very limited staff. "The library is the heart of all the university work", observed the Radhakrishnan Commission. What is true of a university is equally true of a modern museum. All important museums in the country should, therefore, pay special attention to the establishment of libraries in their institutions, and make the "heart" strong so that it may actively help them to realise their twin objectives of advancing research and education.



↑

Plate 41 : Exposure time inside a gallery of the Natural History Museum often varies from one second to several minutes. Shown here is a huge hexahedron structure, made of glass. Inside details are painted with fluorescent colour. The entire structure is illuminated by ultraviolet lamps. Exposure time was 1.45 minutes at f. 14 with panchromatic film of 400 A.S.A. and normal lens (*courtesy* : All the plates from pls. 41 to 51 are by country of the National Museum of Natural History, New Delhi).

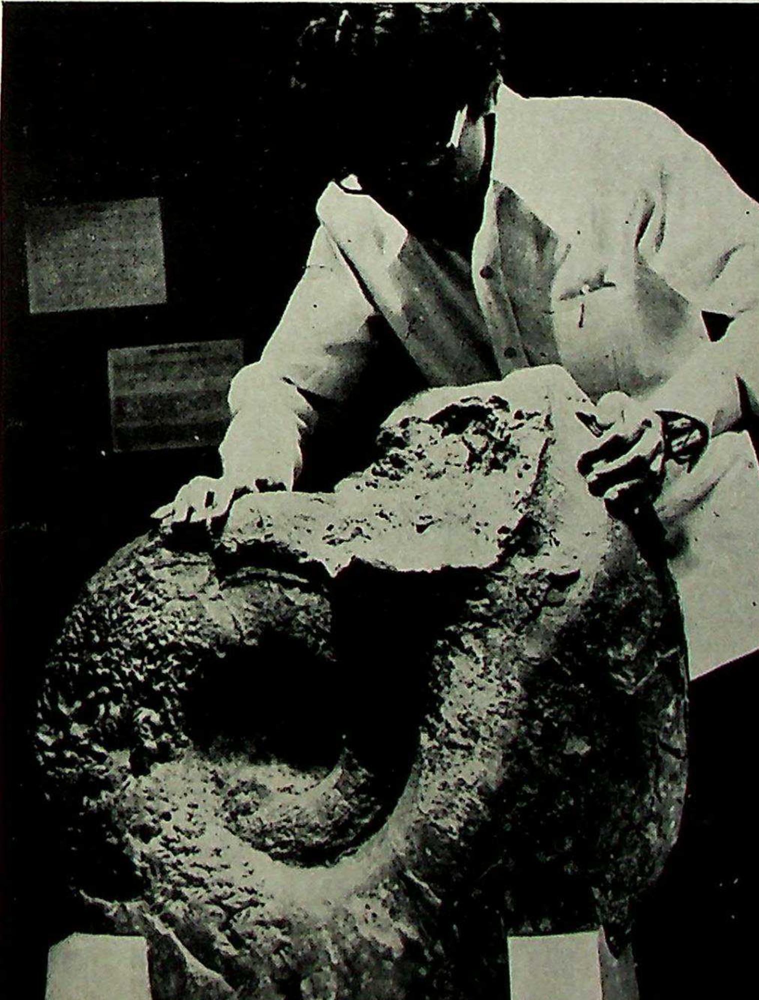


Plate 42 : A fossil of 100 million years age was exposed in the existing light condition of f. 11/30 secs. with a film of 160 A.S.A. Light and shade details can be obtained by time exposure only.

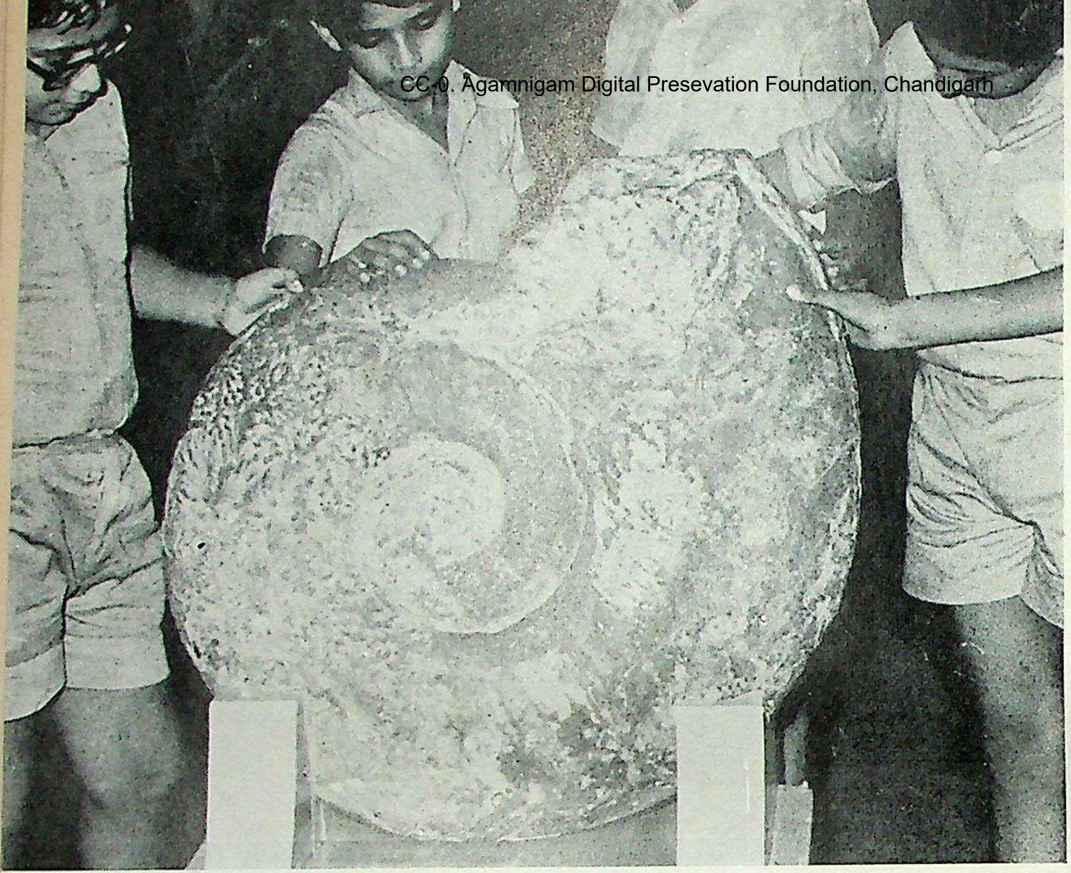
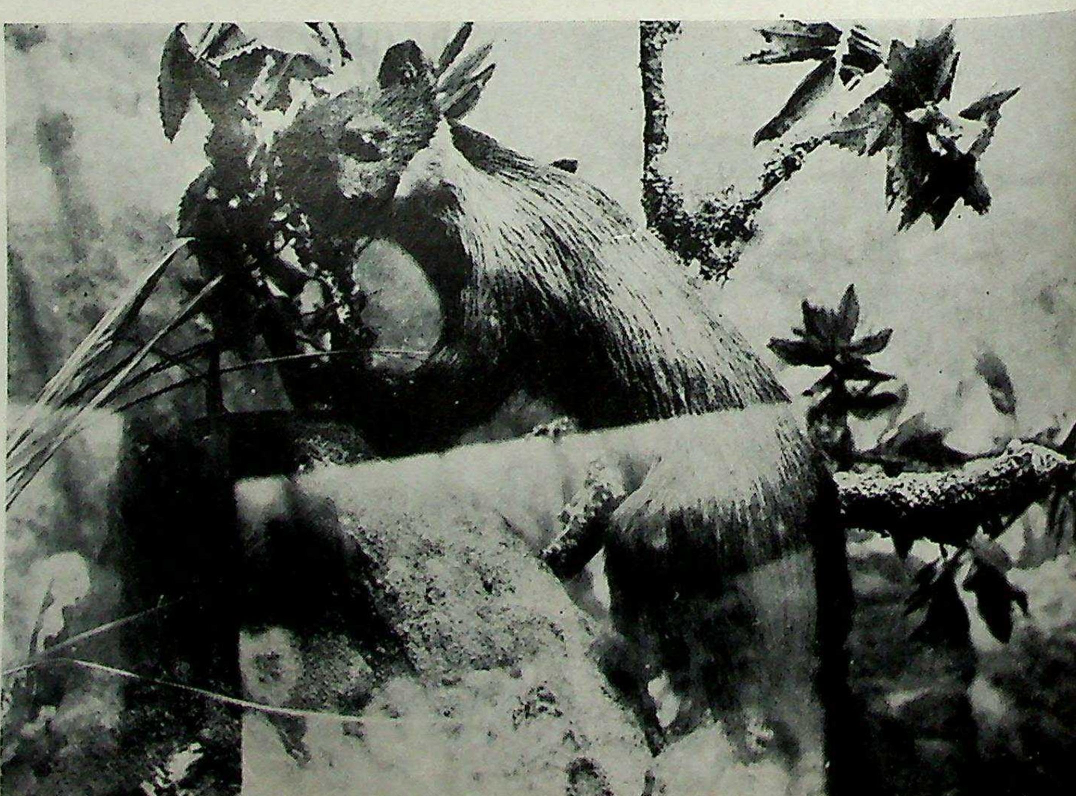


Plate 43 : The same object as at plate 42 was photographed with electronic flash at f. 11 in the next number of the same roll and gave an overall flat results. Such photography is not suited to museum profession.

Plate 44 : An example of how the reflections are generally found in the front glasses of dioramas and showcases. As far as possible reflection should be avoided.



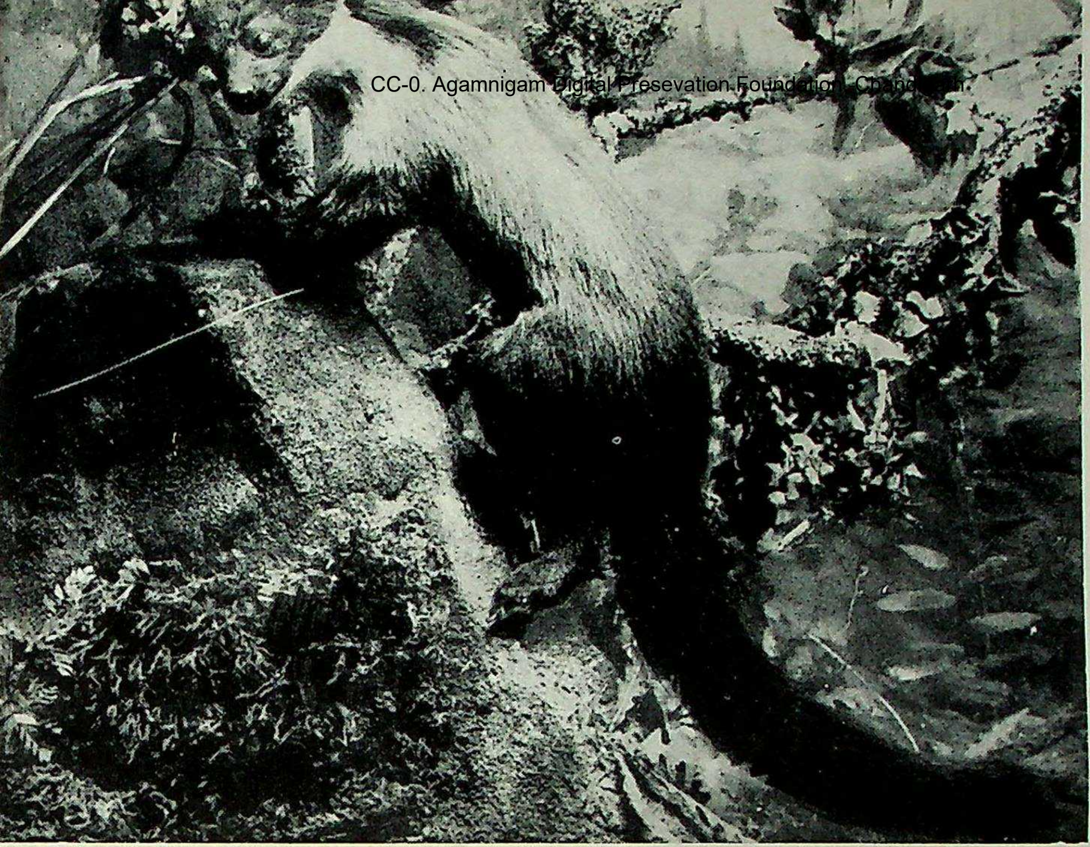


Plate 45 : A careful selection of angles and areas is required to take a photograph free of glares and reflections.

Plate 46 : An example of a bad photograph of a diorama. Camera was placed far below th eye level. The horizon painted in the background objects are either lost or lose thei normal perspective and details. A diprsoportionate sky area is visible.

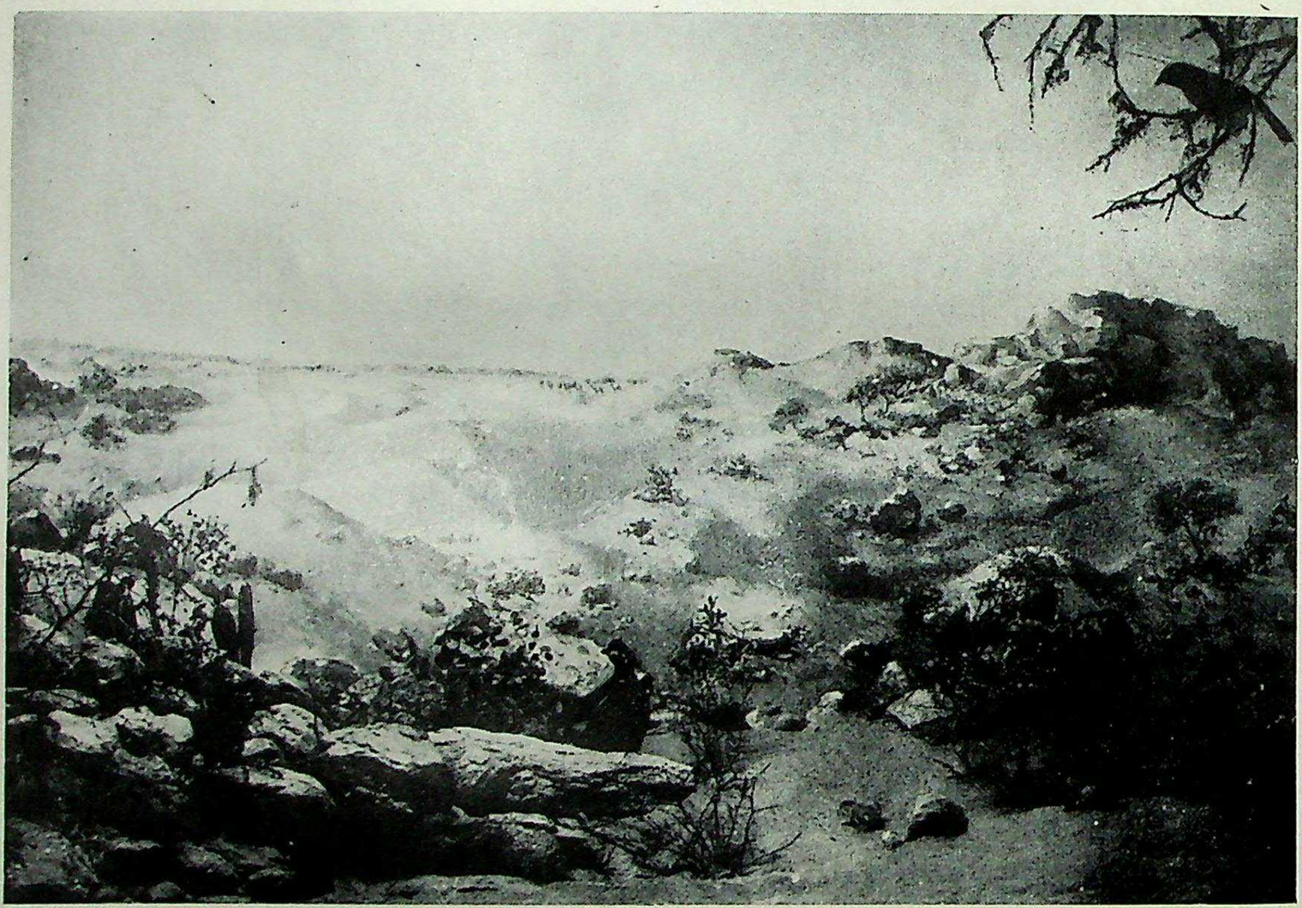


Plate 47 : The same diorama as at Pl. 46 photographed from a correct position of the taking lens and the result is obviously better than what was achieved at plate 46.

CC-0. Agamnigam Digital Preservation Foundation, Chandigarh

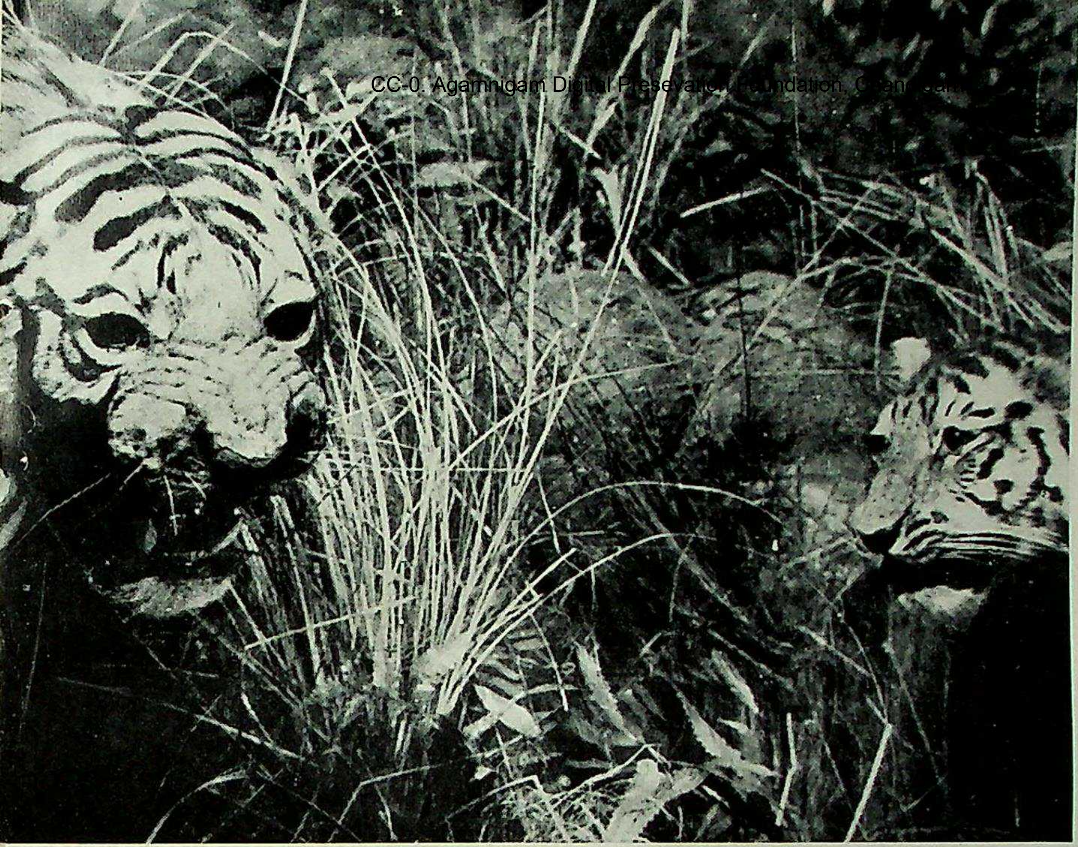
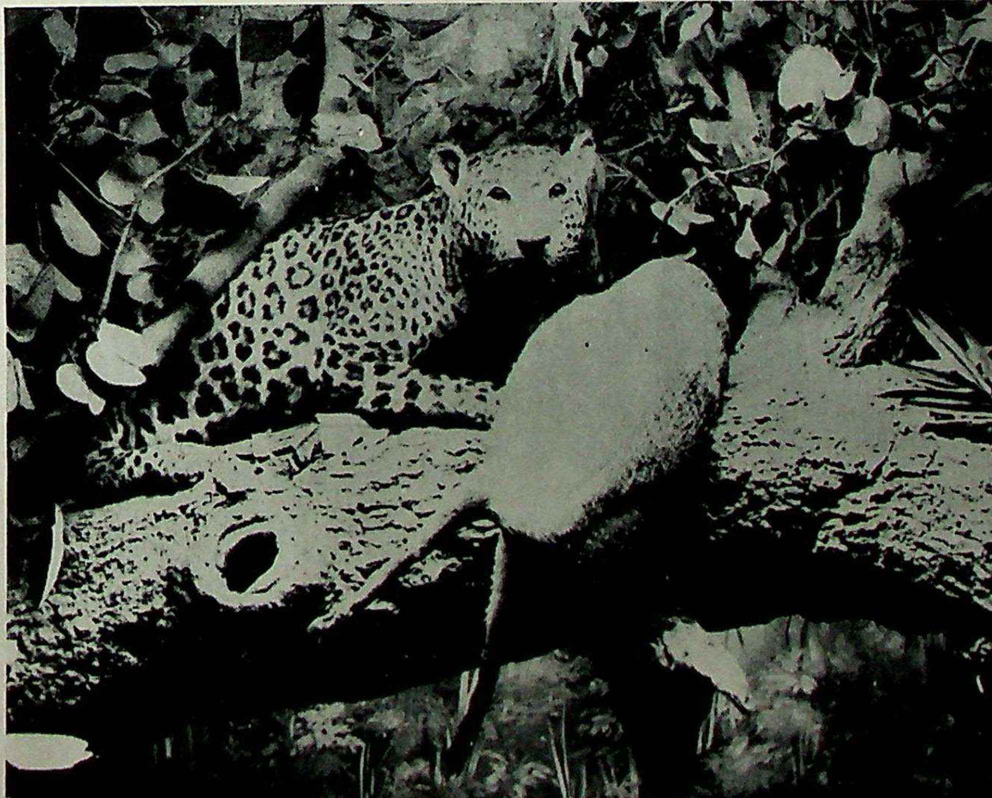


Plate 48 : Photograph of a selected portion of a diorama taken with a zoom lens of 85–210 mm. as there was no space to move in the gallery.

Plate 49 : A panther diorama was exposed in the existing light condition. The film of 400 ASA was exposed at f. 8/17 secs.



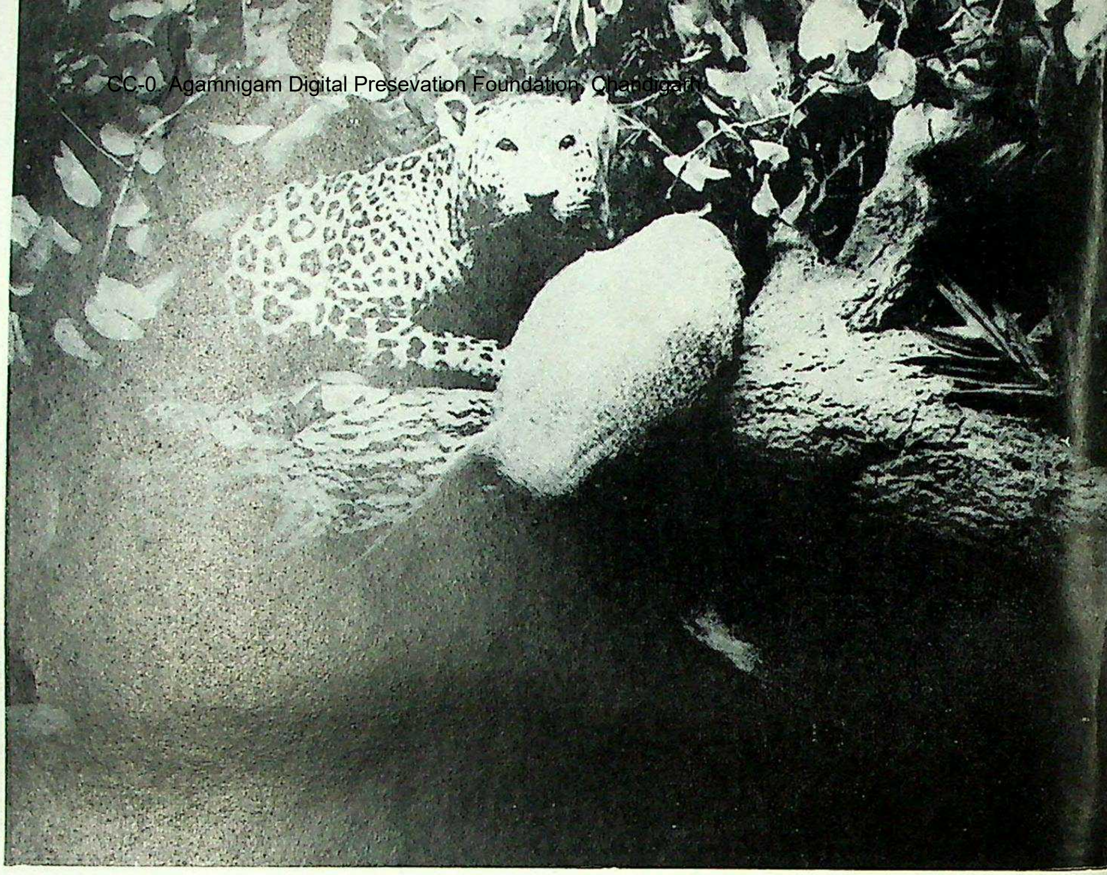


Plate 50 : The same photograph as at plate 49. The details of the shadow area can be maintained by proper application of grey transparent dye in the negative and with useful dodging. Illuminating a diorama with additional light source is not recommended for recording the light and shade effect.

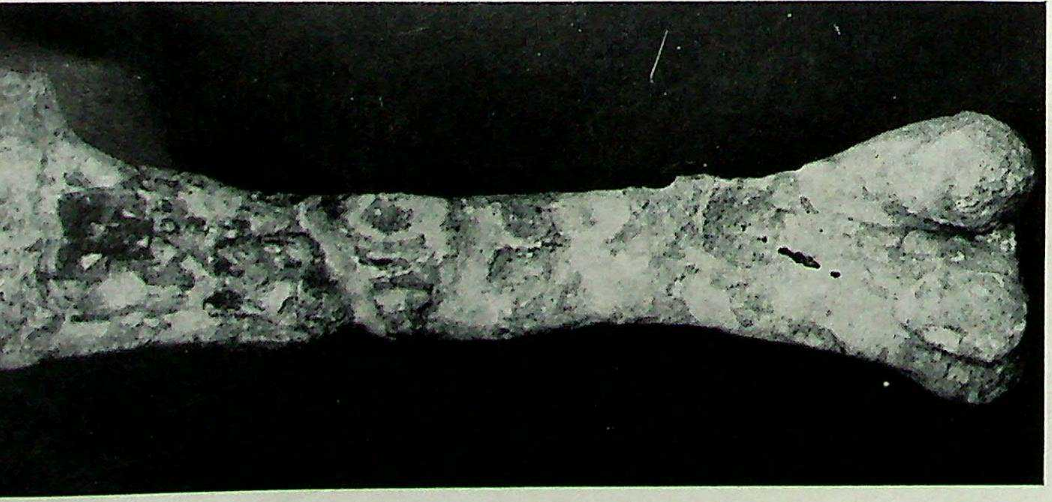


Plate 51 : A fossil bone of a 160 million years old Dinosour photographed for documentation work. For such photography it is desirable to choose a darker background and top light.

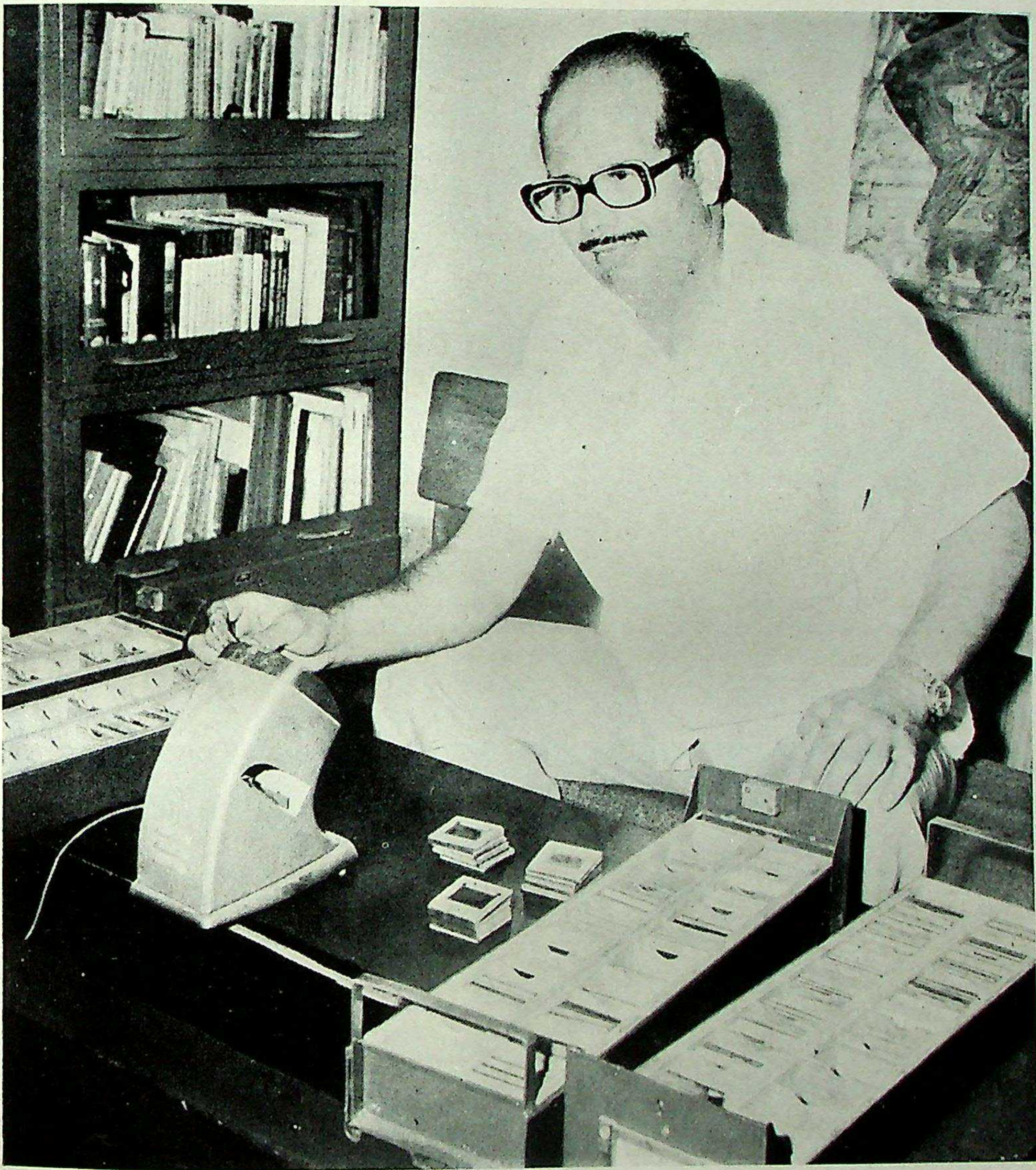


Plate 52 : A museum library is expected to maintain slides collection also for lecturing, comparative studies and research, specially when it is concerned with paintings, textiles and other such coloured objects (*courtesy* : National Museum, New Delhi).

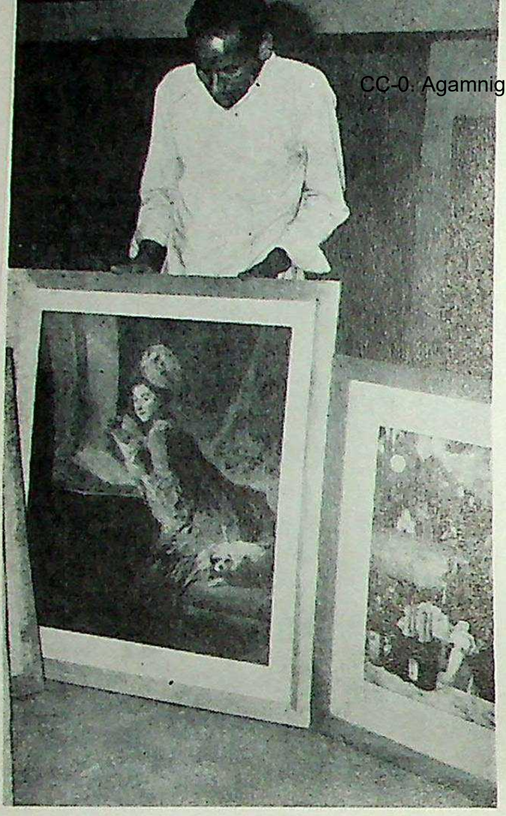
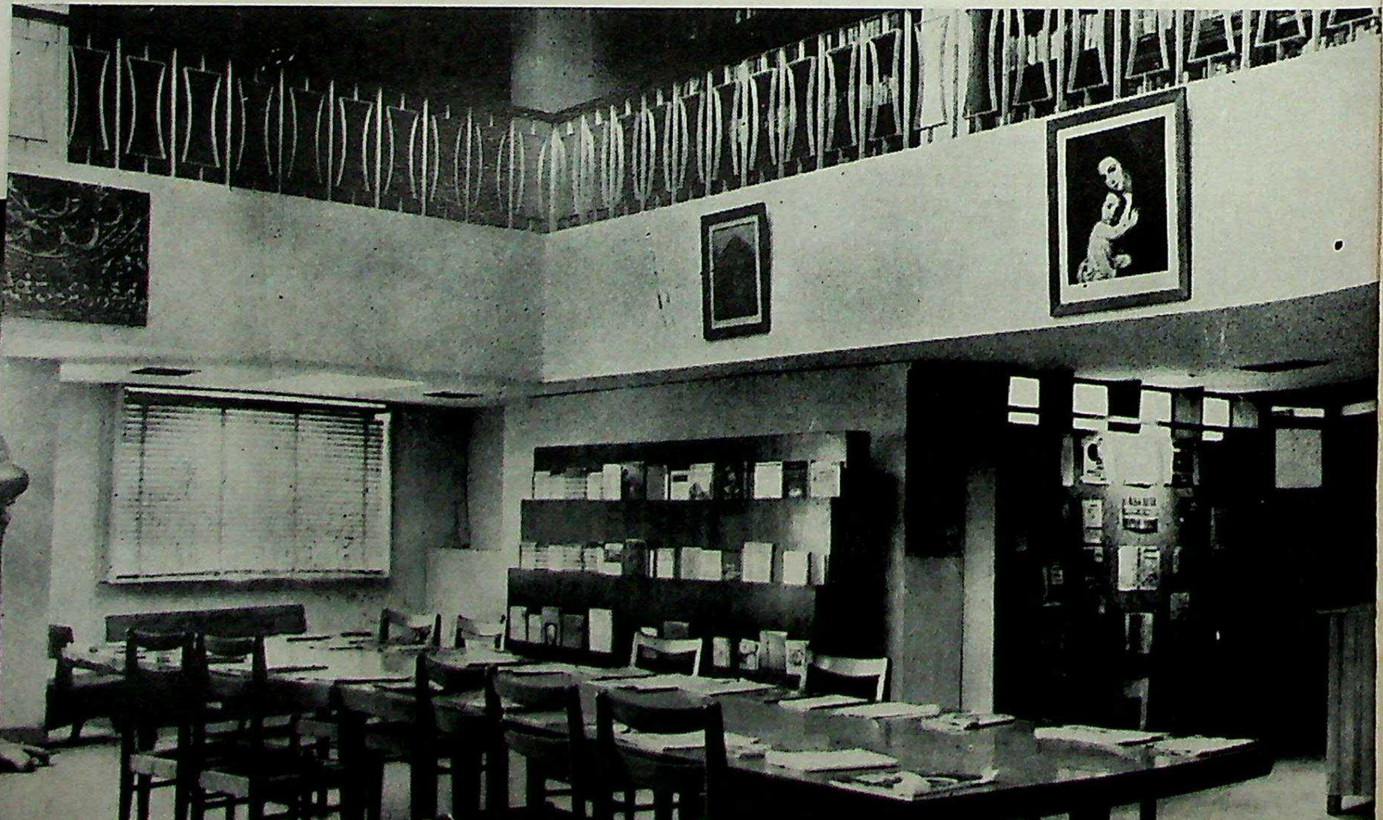


Plate 53 : Mounted coloured reproductions and photographs of museum objects are good for conducting comparative studies and can be loaned out to schools and colleges for teaching purposes (*courtesy* : National Museum, New Delhi).

Plate 54 : Research journals constitute the base for conducting further studies art and archaeology. A museum library ought to contribute as many journals as the funds allow in all the major fields represented in a museum. The view shows the National Museum Library's Periodicals and Journals Section. Photographs of monuments and enlarged reproductions of art objects in a museum library help in creating proper atmosphere for studies (*courtesy* : National Museum, New Delhi).



PART III

Museum Storage

13

STORAGE PROBLEMS OF ARCHAEOLOGICAL COLLECTIONS

B. N. SHARMA

Introduction

Most museums in India have archaeological collections. While some, like the site museums of the Archaeological Survey of India, are purely archaeological, others have archaelogical as well as other collections and are multi-purpose in nature. The earlier museums like the Indian Museum, Calcutta; the Government Museum, Madras; the State Museum, Lucknow; etc. were archaeological in nature in the beginning, but later flourished as multi-purpose institutions, yet the archaeological collections still remain their main attraction. Scientific excavations and chance discoveries continue to enrich these collections. The variety offered by the Indian archaeological material is enormous, from colossal stone sculptures to miniature terracotta figurines, seals and beads. Equally enormous is the problem of their storage. According to modern display requirements, only a small portion of a museum's material can be put on display, the remaining part has to be kept in the storage. The present paper is a modest attempt to discuss the storage problems of the archaeological material and to find solutions that are within the easy reach of Indian museums.

In fact, it is high time that due attention is paid to the storage problems. Most of the museums have rearranged their galleries and have improved the display in the recent years, but storage still remains a neglected aspect. Here we shall concentrate on the problems of the archaeological materials' storage.

General Principles

Where to locate the storage is a major problem which the museums all over the world are facing today. Some museums have the storage on the top floor of their building. The advantages of such an arrangement are that the objects will no doubt be safer as they cannot be easily reached by all the visitors. But then it is not an easy task to carry big or heavy stone sculptures on top floor. Besides, one has also to consult the architects to see if the roof is strong enough to bear the weight of heavy sculptures. Thus it is not a very convenient arrangement.

In most of the modern museums, the storage is located in the basement. But in this case also, carrying the large pieces to the basement is a big problem unless the museum has a ramp like the hospitals. If stored in the basement the objects will be safe from the outside dust and polluted air, but it has to be thoroughly examined that there is no problem of sub-soil water, particularly in the rainy season. If there is moisture or dampness in the basement, then there is every possibility of the sculptures being damaged and weather-worn in a long run.

Owing to the shortage of the space, some museums have their storage in the open air or sometimes under a tin shade. But here also the objects are not safe from the natural damage. The objects kept in the open, are exposed to the sun, the rain and all types of weather and hence are likely to be damaged due to the excessive heat and rain. Similarly, the art pieces kept under a tin shade will accumulate dust and thus will loose their original charm.

Considering the above advantages and disadvantages, it is advisable that the storage may be located on the ground floor itself. In this case, the objects will not only be easily accessible to the Curator for the routine checking and study but will also be within the easy reach of the visiting scholars. In such stores, at least two main doors should be provided—one opening in the gallery and the other towards the road outside. It is safer to provide iron-shutters to such doors and to have double-lock system. Whenever an object is received in or taken out from the store, one can make use of the outside door for this purpose, without disturbing the exhibits displayed in the galleries or to the visitors. The inside door may be used only by the Curator and his staff for entering in the store. Each such store should be provided at least with adequate lighting arrangement, exhaust fans and fire-extinguishers, even if it is not air-conditioned, as has been done in the British Museum, London, for the fragile Satavahana sculptures from Amaravati in Andhra Pradesh.

Arrangement for Keeping the Art Objects

The next question which comes to our mind is that of the arrangement inside the store. Different museums have their own arrangement for keeping the art objects. According to one method, the objects may be placed museum-number or accession-number-wise. In this way these can be easily located and verified as their entries are registered in that order in the department's classified accession registers and index cards. Other museums have followed the method of keeping the objects school or period-wise. This method will be helpful to those who are interested in the study of art of a particular school or period. In the third method, the objects can be stored site or region-wise. If some scholar is interested in the study of art specimens of a particular region like Rajasthan or Karnataka, he can easily see them at one place without causing much difficulty to the Curator.

Some museums like to keep their objects theme-wise or subject-wise. In this way, the sculptures classified under different headings and sub-headings can be grouped together *viz.*, Hindu, Buddhist and Jaina and then Shaivite sculptures, Shakta sculptures, Vaishnavite sculptures, etc. But in our opinion the sculptures should be arranged thematically in chronological order. It will thus help to all those who are interested either in art or iconography through the ages.

Storage of Heavy Stone Sculptures

Usually the large and heavy sculptures are simply laid down on the ground in the reserve stores. By doing so, they not only occupy more space, but also give a bad look to the outside researchers who happen to visit the stores from time to time. It is, therefore, recommended that keeping in view the height of the ceiling and the sculptures, three or more tiered cement platforms are built and the sculptures, fixed on small wooden pedestals, are arranged closely in rows. In any case, these should not be set on permanent pedestals of brick and mortar, because if one or more objects are to be removed for display in the gallery or for loan or exchange to some other museum etc., then it will be difficult to break the permanent pedestals and while doing so the other objects near them may also get damaged.

Storage of Small Sculptures or Their Fragments

The small sculptures and fragements, fixed on wooden block pedestals, should be placed side by side in parallel rows in steel racks. In addition to the accession numbers on objects if the pedestals are also given numbers of the objects, it will help in their handling. Each rack and its shelves should also be numbered and typed lists should be prepared accordingly giving necessary details like the number of the object, title, school, date, size and provenance, etc., so that the working details may be obtained from the lists without consulting the classified accession registers. If the fragments are too small, they can be arranged in trays and then kept on the shelves.

Storage of Bronzes

Big bronzes can be kept in steel racks specially made for them; but those which are too large may be placed on small wooden pedestals bearing their accession numbers in a row on the tiered platforms. These should never be stored in a place which has dampness or the water is flowing nearby. Instead, they may be stored at a dry place away from too much heat and dust. It is better to cover them by alkathene bags. The miniature bronzes should be kept in wooden trays and the trays themselves should be kept in the racks.

Storage of Terracottas, Stucco, Seals, Tiles, etc.

These objects, being too fragile, should be handled with the utmost care. Each item of this category may be duly wrapped in medical cotton and tissue paper and then placed in wooden trays which are again to be kept one above the other in steel almirahs. The big objects can be fixed on wooden pedestals and placed in steel racks in parallel rows. The small seals may be kept in small bags of cloth-lined packets bearing in black ink their numbers and then placed in the steel almirahs. The trays should be of the same size and bear their numbers to avoid any confusion. A detailed list of the object as noted above, the tray number, shelf number and lastly the almirah or rack number should also be recorded with a pencil in the location column of the department's classified accession registers and also the index cards. The use of pencil is recommended because the location often changes. Besides, a list giving all the details should be hanged in each almirah for ready reference.

Storage of Beads

The general practice of storage of small beads is that they are strung together in a thread and placed in a wooden box. But in this case, one has to waste much time in finding out a particular bead. While doing so, some fragile beads can be damaged because of constant rubbing against each other. It is, therefore, suggested that each small or big bead may be kept separately, in a small cloth-lined paper packet, as is being done in the case of the coins, and then placed in index card cabinets. A typed list giving the details of the beads should be kept in the Cabinet.

Storage of Other Material

As regards the storage of invaluable items of gold and silver jewellery, each one of these should be kept in a wooden tray, lined with cotton and tissue paper. These trays may then be placed one above the other in steel almirah kept in the strong room of the museum. All precautionary measures may be taken regarding the safety of the gold and silver ornaments, as these are the most tempting items.

The fragile pots and pottery pieces may be stored in a dry place after they are well-wrapped in cotton and tissue papers.

Epilogue

But before taking any object to the stores, it should be photographed. The negative number may also be recorded in the classified accession register, index card and the catalogue card. Any object, if weather worn or damaged, be chemically treated and repaired. When an object is removed from the stores, its entry should be made in the movement register maintained in the section. Time and again, the Curator should take the help of the conservator to see the conditions of the objects kept in the reserve stores. If thus arranged the objects will be safer and can be located easily.

14

VISUAL STORAGE : A NEW APPROACH

CHHAYA BHATTACHARAYA

A museum is like a human body. If the galleries constitute the face, the storage area is the body of the museum, and it is obvious that the human body suffers from various ailments. Similarly, most of the museums suffer from the upkeep and lack of proper storage. Like a human being who generally tends to wash his face and thinks of himself to be very neat and clean, the galleries of a museum are properly taken care of as they are exposed to the public and, therefore, opened to their criticism. But quite often the storage areas are neglected. Hence an attempt has been made in this paper to find out a practical solution to this universal problem of storage.

The storage system in a museum confronts with the foremost problem of shortage of space and the National Museum is no exception. All the departments, *viz.*, Pre-and-Protohistory, Archaeology, Manuscripts, Numismatics, Miniature Paintings, Decorative Arts, Anthropology, Western and Pre-Colombian Art and Central Asian Antiquities badly lack proper storing space. Efforts are being constantly made by these departments to rearrange objects and make the best use of the limited space at their disposal. One of the best working solutions found so far is the visual-storage system, *i.e.*, to exhibit as many objects in the gallery itself as possible. The gallery, however, has to be distinctly divided into two parts : exhibition area and storage area. We shall now discuss the advantages and disadvantages of this system.

The visual storage has several advantages. Firstly, from the security point of view the visual storage is the ideal solution. In that case all the objects can be displayed, so that they remain under constant observation. If theft occurs, the missing object can be easily detected. Secondly, the routine rounds taken by the respective custodians will help one to notice if any object has any problem, such as, chipping off colours, developing cracks or any other kind of deterioration taking place. If so, the affected object can easily be taken out and sent for treatment. Thirdly, visual storage will protect the objects from frequent handling. Since they are visible selection for loan, exhibition, photography and study can be made out of them without actually touching them. Owing to the frequent handling, the fragile objects loose their life-duration. Last but not the least, visual storage, if it is in the gallery itself, will help the research scholars to look at the objects without going through various formalities. No Curator need to accompany them to the gallery. They can study the objects according to the themes of their research work. Later on, they can enquire about the documentation of the objects and ask for the photographs, if they need.

The visual storage can be arranged both inside the Study or the Reserve Collection Room as well as in the concerned galleries. How this system has been put to the actual use can be seen in the different departments of the National Museum, *viz.*, Anthropology, Decorative Arts, Pre-and-Protohistory and Central Asian Antiquities. Obviously the use is determined by the different categories of objects. Of these, the departments of Anthropology and Decorative Arts have the storage in their Study, the Pre-and-Protohistory Department has it in the gallery itself and the Central Asian Antiquities Department has put it into use both in the gallery as well as in the Study.

Let us examine the different uses of the visual storage one by one. In the Study of the Department of Anthropology there are huge wall showcases with glass covers. They are ideal for visual storage but due to the sizes and delicate nature of the objects, *viz.*, textiles, leather puppets, pith-works, etc., the purpose of the visual storage is not served fully. Truly speaking the textiles should not be hanged on hangers but they should either be rolled or may be wrapped in cellophine bags and kept in the cases. Same is the case with leather objects and pith-works.

In the Study of the Department of Decorative Arts one gets the glimpse of a visual storage of another type. It has rows of partitions, made of expanded metallic wire fixed in metal frame, from the floor to the ceiling in order to protect the objects from the termites. On either side of each partition, the wood carvings, consisting of panels and statues, are hanged by means of hooks and clamps. All these are covered with alkathine bags to protect them from dust. Any one doing research in wood carvings may get a fairly good idea of the collection without handling the objects. Either of the objects can be brought down for detailed study, if needed.

The best use of visual storage, perhaps, is made by the Pre-and-Protohistory Department. One-third of the Pre-and-Protohistory gallery has been utilized as the visual storage. Huge almirahs with glass covers are used for the purpose. They are arranged face to face in the form of a cubicle, so, that the wall between them has been used for a map (Pl. 55) showing the places, the displayed objects came from. Alternately it could have been utilized for a chronological chart with a general description of the people and their tools of the respective period. Through the sketches the usage of the tools and other artefacts, manufactured and used by those people, can also be explained. These measures will really be didactic and serve the purpose of the museum in true sense. The objects are arranged quite closely and individual labels need not be given.

For general public the information given in the exhibition area will be quite sufficient. The research oriented visitors will have an easy access to the objects and will definitely enjoy the opportunity to study similar types of tools, potteries, etc. and, thereby, understand them well, as far as their techniques, styles and materials are concerned. All these visual storage might not have looked like a storage but like a gallery had there been enough space for displaying the objects. In this connection, mention may be made of the visual storage of the Central Asian Antiquities in the Museum fuer Indische Kunst, West Berlin. The study is in the ground floor. The huge study and the working rooms for the restorer, the draftsmen, etc. are separated by a passage, which reminds one of the *pradaksinapatha*. The storage looks like a mass of walls from outside, but the moment one enters inside, he is surprised to find himself in a gallery which not only exhibits each wall-painting on its walls and other objects in the table-showcases but also provides with a map. The large hall has enough space to hang all the fragments of wall-paintings. A number of table-showcases exhibit objects like wood-carvings, terracottas, metal, stucco, etc. This display serves the real purpose of a visual storage, but as already said, it is possible only when sufficient space is available with any museum.

Despite the fact that the National Museum New Delhi lacks proper space for storage, the Department of Central Asian Antiquities is trying its best to gain the maximum advantage out of the space placed at its disposal. A corner of one of the galleries is now used for its study. Two outer walls, L and N (Fig. 10) of the study are being used for combined visual storage units. They are, however, arranged in such an inconspicuous manner that one hardly recognizes them as a storage.

Against wall L combined visual storage units, consisting of showcases with table-cum-drawers (Pl. 56), are installed along the length of the wall. The showcases are provided with the shelves and are covered with glasses. The monotory of the stereotyped shelves is broken by different sizes of blocks which are suitably placed for displaying different types of objects. The interior of the showcases are covered with light coloured neutral backgrounds in order to suit different coloured art objects. Labels of the objects are also provided to give basic information to the visitors.

In the middle part of these showcases, table-showcases are made to exhibit flat objects, such as ceramics, wood, metal, etc. Underneath these table-showcases, cabinets with a number of drawers have been made. These drawers have strong locks. Thus it will be seen that efforts have been made to store different categories of art objects in one showcase, which is multipurpose.

In order to break the monotony of the row of the showcases with table-showcases-cum-drawers, another variety of combined storage unit has been installed in the same row. It conssits of a cabinet with sliding panels-cum-table-show-cases-cum-drawer (Pl. 56).

The sliding panels exhibit two types of objects : (a) silk-banners and (b) paper block-prints. These panels have proved to be of great use. Chemically well treated silk-banners and the paper block-prints are first mounted. Two separately mounted objects are placed back-to-back and then they are framed in one panel covered with glass, so that both the sides of the panel are seen. In some cases, a number of small objects are arranged in one mount. Thus one can see more than a hundred objects in fifty-eight sliding panels. These panels are not only useful for storage purposes but also for the keen and curious visitors, who can pull the sliding panels themselves and study the desired objects as long as they want. This arrangement gives them the satisfaction of active participation in handling the objects displayed.

Below these cabinets with sliding panels, table-showcases have also been provided. Over each glass-case a movable wooden cover is fixed. This measure serves one with double beneficiary purposes. In these covered table-showcase fragments of wall-paintings and textiles are exhibited. The covers give protection to the colours of the objects which may fade away, if exposed to light. The other advantage is that the visitors can use the covered table-showcases as a table while studing the sliding panels. Out of curiosity they may further lift the covers of the table-showcases and see the objects stored therein.

Recently another combined visual storage has been designed for the gallery. It has been set up against wall N of the study. This is a combination of glass-showcases and a cabinet with shelves covered with sliding doors. The show-case has a long penal with a recess in the centre. The symmetrical projecting panels on the sides are cut-out according to the shape of the fragments of wall-painting and votive plaques made of stucco. The recessed portion shows a large. Buddha figure in the centre accompanied by two flying celestials above and two smaller Buddhas below. They are all made of stucco. This recessed portion gives the impression of the niche of a Buddhist *stupa* where these figures were originally fixed by applique technique in order to decorate an enormous *mandorla* of a large Buddha.

Once again the space below this showcase has been well utilized for the storage. The cabinet, made of the same size as that of the showcase, is provided with a number of parallel shelves. This cabinet is purposely made to store flat objects, *viz.*, wooden tablets, and can accommodate nearly four hundred objects.

So much about the visual storage inside the gallery, we may now discuss the same inside the study.

Of the four walls, three walls of the study have been used for hanging the properly mounted and framed silk and canvas paintings. These paintings are covered with dark-coloured curtains so as to protect them from dust and light. About twenty large-sized paintings are hanged on the walls and are easily accessable to research work. The fourth wall has ten cabinets arranged in two rows, *i.e.*, five in the upper row and five in the lower row. The cabinets of the lower row have drawers with provisions for resilience made by linen tapes arranged in criss-cross design. This method protects the delicate and fragile textiles pieces from friction caused by pulling the drawers and help them stay in their respective places (Fig. 11).

The central part of the study is provided with a huge combined storage unit. It consists of showcase-cum-drawers. Though it is made of one unit it has been divided into two units by means of a partition in the centre. Thus it gives the impression of two showcases, kept back to back, and both the sides of the showcase can be used for displaying the objects.

The long showcase, on both sides, is divided into three cabinets and each one of them is provided with a sliding glass cover. Each cabinet, again, is having shelves arranged according to the sizes of the objects. These two showcases have enough space to exhibit all the stucco heads, terracottas and wooden objects. Though crowded, these showcases are as attractive as those exhibited in the galleries. The only difference being that less space has been given here, whereas more breathing space has been given to the galleries. The galleries have individual labels also.

Underneath these showcases, cabinets, three on each side, are made. Each of these cabinets has seventeen drawers. These drawers are specially made of *deodar* wood as a preventive measure against the insects. The drawers are provided with non-friction linen tapes which are arranged in criss-cross fashion (Fig. 11) for resilience as well as for fixing the corners of the mounted silk paintings and paper drawings so that the delicate objects may not be damaged while pulling the drawers.

Besides, the study is provided with a map, a time chart and a list of abbreviations of the materials of the objects as per their entry in the index cards. It has two working tables. The space underneath these tables has also been utilized for storage. A long cabinet with sliding doors is made under one of these two working tables, where large objects, *viz.*, the wooden architectural pieces, such as brackets, beams, lintels, etc., are kept. The other working table has twelve cabinets, each one of them is provided with fourteen drawers. These drawers are made according to the sizes and nature of the objects.

The above mentioned storage system, which evolved in several years, has been able to meet our present need of storage and since ours is a static collection, we do not foresee any immediate problem. However, the following points need to be considered.

First, realising the immense utility of visual storage in a gallery as well as in the study is it possible to put the entire collection under visual storage ? The answer is in the negative. The following discussion will make the point clear. As said at the outset, the shortage of space is a major problem in all the museums all over the world, the Central Asian Antiquities Department, New Delhi, is no exception. It has no proper space for its study. A corner of the gallery has been turned into a cabin which is now used as the study. Owing to the limited space, it is not possible at present to turn the study into a complete visual storage. A beginning in the direction of the visual storage has been made by introducing a combined storage unit, both in the study and in the gallery. The experiment has been quite successful and can be adopted by other museums according to their needs.

The second question that occurs in one's mind is, suppose, there is ample space for visual storage and all the objects are exhibited, will it attract the public in the same way as it does in the case of objects specially exhibited in a gallery ? Probably not. Because mere putting up the objects in the showcases of the visual storage will hardly speak to the laymen about the objects. One may answer, well visual storage is not meant for laymen but for the scholars. In that case also, the scholars may find it useless if at least minimum information, *e.g.*, name of the object, material, date and place, etc., is not given.

It may further be suggested that the visual storage should be research-oriented. It should aim at arousing inquisitiveness among its onlookers, in seeing and knowing more about the exhibits. For example, mere exhibition of a bead-necklace will not be sufficient. The spectator might take interest in the sketches showing the process of techniques involved in bead-making or terracotta art or sculptures and so on.

Last but not the least, visual storage should never be a permanent feature in a museum gallery. Instead of encouraging the visitors to come to the museum it will discourage them due to the lack of novelty in the exhibits. Therefore, visual storage inside a gallery should aim at giving incentive to its visitors so that they may become curious to know more about the collection. For this purpose, like any other exhibits in the gallery which are changed after a few months, the objects of the visual storage should also be changed periodically. Such arrangement is bound to help all museums in relieving them from the storage problems.*

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* The author expresses her heartfelt thanks to Shri Dilip Bhattacharya, Senior Artist, National Museum of Man, Bhopal, for the beautiful line drawings andis grateful to the Director, National Museum, New Delhi, for the photographs.

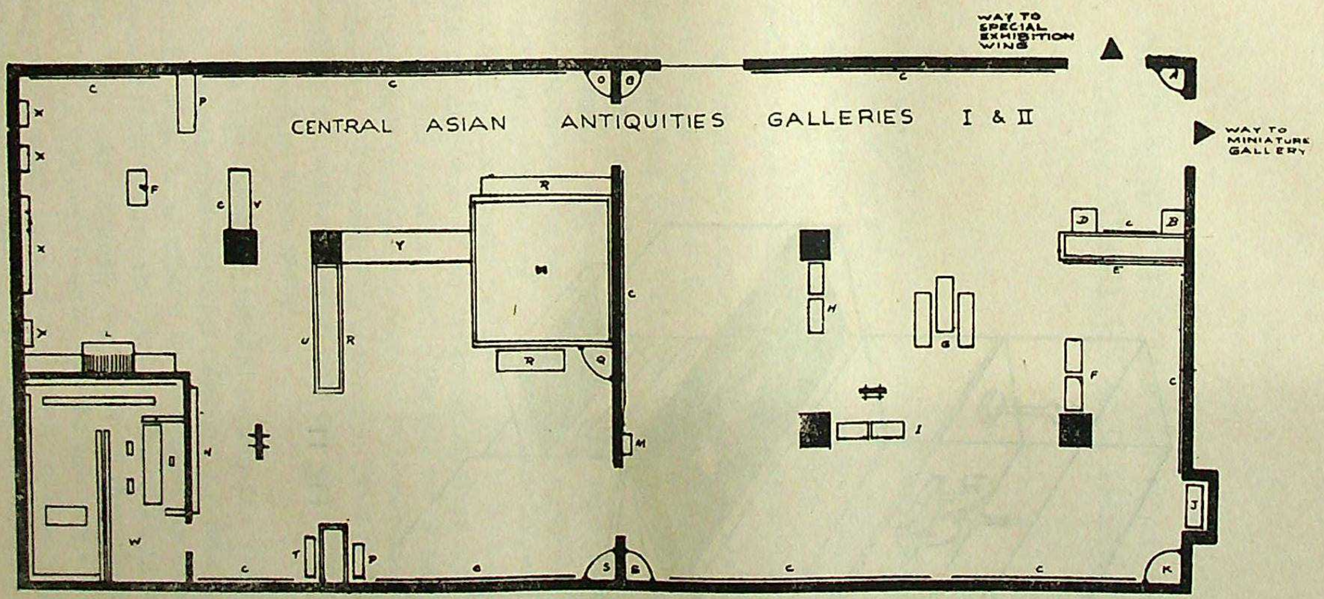
WAY TO SPECIAL EXHIBITION WING
WAY TO MINIATURE GALLERY
CENTRAL ASIAN ANTIQUITIES GALLERIES I & II
A
B
C
D
E
F
G
H
I
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FIG. 2
NOT TO SCALE

Key to Fig. 10

A. Stuccos from Miran; B. Buddha head; C. Silk banner; D. Buddha's hand; E. Map and information; F. Household objects; G. Griffins from Astana; H. Ceramics and bronzes; I. Wooden tablets; J. Bronze Buddha; K. Objects from Tus Huang; M. Buddha head from Miran; S. Stuccos from Mingoi; O. Objects from Astana; R. Burial offerings from Astana; Q. Display of Astana; Z. A/c chamber, Y. Same as R; U. Embroidered silk fragment; P. Wooden box from Niya; T. Chinese coins; N. Display-cum-storage; V. Paper painting; W. Study: L. Combined storage cabinet; X. Wood carvings.

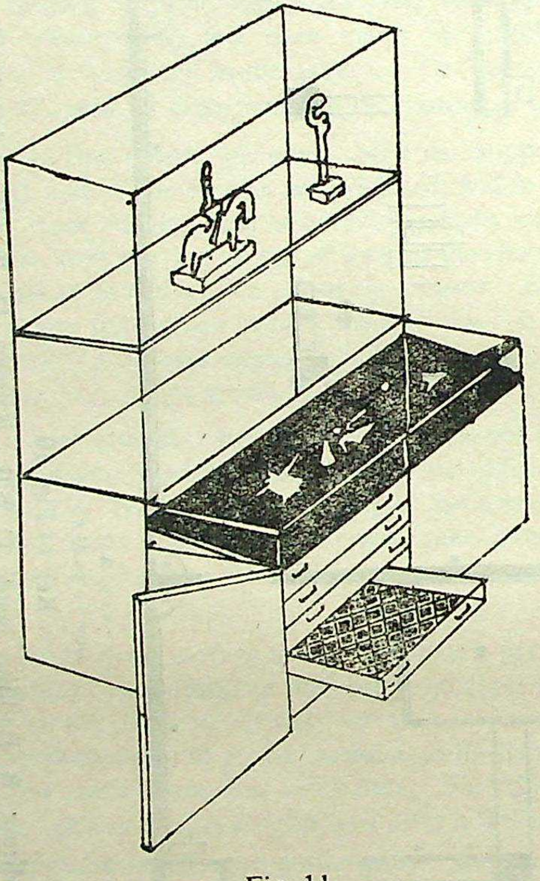

Fig. 11

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NEED FOR ETHNOGRAPHICAL COLLECTIONS IN THE INDIAN MUSEUMS AND THEIR STORAGE PROBLEMS

NILIMA ROY

The ethnographical collections in the Indian museums made its beginning with the inception of the museum movement in India. The Britishers were interested in studying the culture of the country, and they paid special attention to the tribal cultures which was till then a virgin field. The ethnographical collections thus started growing in a scrappy way in different composite Indian museums.

The traditional ethnography collection has an important role to play in preserving the material for the basic documentation of human cultures at specific points in time and space, for the posterity. The ethnographical collections today need all the more attention to instil the idea of unity among the heterogeneous cultural groups of India. It is only through the traditional cultural unity that we can achieve the integration, and the growth of a free democratic nationalism. It is only through the assemblage of our cultural material, which is of multiplicity in nature, that a democratic structure of society can be built up. It should not be forgotten that within the diversities of various traditions there are frequently uniformities of values and symbolical meanings, and in the interest of national integration, and national heritage these examples are required to be adequately and appropriately interpreted in museums. The man who is trying to know everything and wants to appreciate everything of aesthetic value does not very often care to know many things about his own kind or social group.

India is proud of her cultural heritage but the acculteration is so rapid that the immediate ethnographical collection in a museum, arranged in a systematic and scientific way, is necessary for the posterity to show how one set of people have borrowed from another the food habits, clothing, ornaments, house-types, appliances, etc., and through the study of these one could devise a way to build up a model of an unknown future. So the knowledge of cultures, both past and present, is one of the main resources of the cultural creativity which we can only be fulfiled through the ethnographical collections in a museum.

Another major task of the ethnographical collection is to create an awareness for the proper understanding of the traditional culture of the country. The study of these collections not only serves the community at large but is the only centre for higher academic and research work. The ethnographical collection, arranged systematically, helps in stimulating interest in a child as well as it provides the valuable material for the study of the scholars and the artists interested in the study of culture. It may also inspire the planners, the industrialists and the scientists.

'Cultural change, both in tribal and folk life, has further been accentuated by economic upliftment and change in traditional economic pattern. The rate of such change is so rapid at present that to record them, there is only one proposition left-arrest it now or never. Thus under the impact of modern economic upliftment of the country when its rich traditional cultural heritage is on the verge of extinction, the ethnographical collections play a dominent role in collecting different categories of objects of traditional, folk and tribal cultures together with all sorts of information in their minute details. It is one of the primary responsibilities of the museums in general to act as a repository for preserving the records of the rich cultural heritage of the country, particularly in a developing country like India where traditional, folk and tribal cultures have a glorious history of their own.

In India the industrialized and pre-industrialized societies are existing side by side and will continue to do so for some time more and as such it is necessary to take early steps to start collecting all categories of objects showing the traditional technologies and techniques, before they disappear.

Once the ethnographical collection is built up in a museum it becomes necessary to preserve and store these objects properly. In a museum it is neither possible nor desirable to put the entire collection on exhibition. Therefore, every museum, whether large or small, must set aside some space for storage called the Reserve Collection. The collection in a museum may broadly be classified into two distinct categories : (*i*) object to be exhibited for the education and entertainment of the visitors, and (*ii*) objects to be kept in storage for future exhibition and study by the research scholars. The storage can either be a visual storage or the collection may be kept under the closed room.

In any case, while selecting the storage space, provision has to be made for the study and working space. The storage space or the Reserve Collection Room requires dry, well-lighted and strong floor area.

Care should be taken to meet the fire hazard and should have provision against the insect intrusion in the storage space.

The Reserve Collection space should preferably have air-conditioning, humidity control system and necessary provision and facilities for using preservatives of different types.

The storage should be so designed that the collection could be reached easily or is visible from outside. The ethnographical collection need a great number of capacious wooden or metal cupboards and the space in these must be put to the best possible use by dividing them into the compartments in accordance with the size and type of objects. Certain objects need be placed behind the glass so that they are visible without being touched and can serve the purpose of a visible storage (Pl. 57).

The storage area should be nearer to the office of the officer-in-charge of the section, as it allows him an easy manoeuvring of the objects for exhibition or in undertaking any research project and also facilitates in checking of the collection. The use of the trolleys, having ball-bearings and rubber-tyre wheels, are necessary as working table in the storage (Pl. 57). These can be easily moved without marking the floors. The trays are extensively useful to store the smaller objects, specially the ones lined with black cotton cloth, such as ornaments, etc.

In arranging the ethnographical store room the material is to be grouped together according to the culture-area or culture-sub-area units, so that it is possibie to separate the material according to the individual site or place of origin. Each culture-area should be given sufficient space in the store room. It will be necessary then to decide upon a chronological breakdown which can be applied roughly to all the areas represented in the store room.

The ethnographical objects are of diverse nature. They include all types of material objects used by man in his socio-cultural setting. Accordingly a classification of various categories of collection is based on their functions which can further be classified according to the material. While classifying functionally the ethnographical objects can broadly be grouped as follows :

(1) Costumes

(2) Ornaments

(3) Basketry

(4) Terracotta objects

(5) Musical instruments

(6) Masks

(7) Folk paintings

(8) Brass objects

(9) Wood carvings

(10) Fishing appliances

(11) Agricultural implements of various types, and

(12) Weapons of war and chase.

After classification the objects having common functions can be grouped together in one section, whereas the objects with different functions in a separate section. The costumes, including the headgear and the footwear of a particular state, sould be stored in one place. A further sub-division is necessary for costume on the basis of its material and each quality of material should be clubbed together.

The different types of metals are used for ornaments. The primary division should be the state-wise classification having its sub-divisions under the different types of metals and ornaments.

The musical instruments should first be classified on the basis of the state to which they belong, thereafter they can be grouped under the headings : the 'string instrument', 'the wind instrument' and so on.

The ethnographical collections require special care as most of these are of organic nature. The surrounding area, having high humidity, encourages the growth of various moulds. Excessive heat and dryness are also dangerous which may cause the objects to split and sometimes even distort its shape. There are objects which need higher humidity while others need less. It is necessary to maintain the relative humidity in the ethnographical storage. There are many difficulties in storing the objects as they are of various materials and various sizes. Care should be taken to check the fungus and the presence of insects before the ethnographical objects are allowed in the store. In general, the ethnographical objects in the tropical climate should be kept preferably inside the polythene packets to save them from superficial dust, heat, etc.

There are many leather objects in the ethnographical collection in which skins are tanned with the primitive methods either by smoking and rubbing with animal fats. Similarly, there are many hairy and fur objects. These objects are to be placed in the store carefully. The individual object should be kept, wherever possible, in the polythene bags filled with preservative materials before being placed in the store (Pl. 58).

The fragile textiles are usually first rolled in wooden cylinders and are kept in alkathine bags. Other less fragile costumes can be hung from hangers and covered with alkathine bags to be kept in the cupboards (Pl. 59). Smaller, coloured and embroidered costumes are to be placed in alkathine bags with insecticide and should be shielded from light to prevent the fading of colours.

The mats and baskets become brittle in dry climate and as such a primary preservative solution of bees wax and turpentine is applied before being placed in the storage. The tribal wooden objects, particularly the painted ones, should carefully be checked from the insect infestation. They should be subjected to temperature and humidity extremes. The hair and fur objects are subject to attack by the insects very easily. As such it is a great problem to keep the objects in a store alongwith other objects. Frequent checking to this type of objects is needed.

As only the selected objects are displayed and the rest are placed in the storage, considerable emphasis should be laid upon the storage facilities in any museum. In the smaller museums steel shelves, steel trunks, steel cupboards or wooden cupboards may serve the purpose, but as the quantity increases, the need for a complete up-to-date storage is necessary. Each cupboard, or shelve should be numbered and have its own card with a complete record of its materials. The reserve collection should be well documented, properly catalogued and should have an easy accessibility to the scholars and staff for study and examination. Sufficient space is necessary for the storage to arrange the objects scientifically with proper documentation.

Photography, both still and cine, is an integral part of the ethnographical collection as its documents methods of construction, manners of use, etc., of the artifacts *in situ*. The photographic documentation is particularly important for the ethnographical objects which are difficult to collect and preserve.

In order to avoid their disappearance without trace, it is necessary to record those in still photography, cine and tapes.

The valuable ethnographical documents when brought to the museum need serious consideration of storage for posterity. The photographs also provide useful documentation of the collection, both exhibited and displayed. Each individual object need be photographed for the purpose of documentation. The photographs of the objects should preferably be mounted separately on individual index-cards, and should be stored in the storage room in vertical drawers which slide easily in metal cupboards, clearly indicating the negative number and the accession number to facilitate their identification by the students and the research scholars (Pl. 60).

The importance of immediate collection and documentation of the ethnographical objects, their preservation and proper storage in museums cannot be denied. The question arises how fast we should start collecting and documenting the traditional, rural and tribal cultural material which is seriously affected by the industrialization, urbanization and other contemporary factors. In our country it is regretable that even though there are rapid political and economic changes we have not given enough thought to preserve or salvage the remnants of the ethnographic-cultural property.

We all agree that the ethnographic material cannot be collected at one time, we will have to fix priorities. Once the priority is fixed, we will have to embark upon quickly in the documentation and collection of the traditional vanishing cultural phenomena, both for theoretical interest and also to understand the acculteration which has crept in and the unique and indigenous modes of life which are gradually vanishing.

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16

STORAGE OF ARMS AND ARMOUR WITH SPECIAL REFERENCE TO THE NATIONAL MUSEUM, NEW DELHI

G.K. SHAROTRI

Today it is realised much more seriously than ever before that the storage of an antiquity is as important, or even more, than its public exhibition. The National Museum, New Delhi, is perhaps the only museum in our country which can be proud of its several reserve collections in which the antiquities have been scientifically stored and preserved. The storage of the departments of Anthropology, of the Textiles, of the Paintings, of the Central Asian Antiquities, of the Sculptures, of the Pre-Columbian objects, of the Manuscripts, of the Coins, etc., have been applauded by one and all. Another feather to its cap has been added by the reserve collection of the Arms and Armour which is, till today, the only storage of its kind in India.

It needs no explanation that the antiquities are not 'stored' but are 'preserved in the reserve collection' which also serves as the research cell for the serious scholars, enabling them to handle the antiquities and make a direct and first hand study. Secondly, these are frequently cleaned and chemically treated. Thirdly, the objects in the stores are better secured since they are less exposed to the outsiders. Fourthly, these reserve collections also serve the purpose of the documentation centre. The reserve collection of the Arms and Armour Section of the National Museum, New Delhi admirably serves most of these functions.

Since it is air-conditioned, like the exhibited galleries, it provides a very cosy and comfortable place for a scholar and also preserves the arms from dust, heat, rust, etc. Special wooden racks have been prepared for the swords (Pl. 61). Long, wall to wall, touching almost the ceiling, wooden racks at the distance of two feet have been installed, each bearing a nock or a slot at a distance of two to three inches. A sword can thus be placed perpendicularly resting its hilt on one nock and its tip on the nock just opposite to it. In this manner many swords have been accommodated on a single row without disturbing the other specimens. Similar smaller wooden racks are proposed for the daggers, knives and other shorter weapons.

The rifles, guns and other fire-arms of longer size can best be preserved by making them stand on a round pedestal with a central spike. The base of this wooden pedestal bears niches of the size of the butt into each of which a fire-arm is placed with its butt down and barrel up. In the central spike are placed hinges into which the muzzle of the barrel is rested. The hinges when raised up can allow the muzzle of the barrel to go in and then it can be slid down which serves as a lock. In this manner six to eight rifles or guns can be placed on each pedestal. It can be made revolving also so that it can be rotated. The pedestal is not very heavy and can easily be shifted from one place to another.

The best way to store the armour is to place it on a dummy. However, the space may not permit the same treatment for a *howdah* or an elephant or horse-armour which can, therefore, be placed on a big shelf, as has been done in the National Museum, New Delhi.

The inscribed, jewelled, damascened in gold or silver or otherwise rare short-arms have to be kept in steel cup-boards. All such embellished daggers, knives, sword-dagger-hilts, belts, gunpowder-flasks, sheath-mounts, etc., have, therefore, been kept inside the steel almirahs and the still rarer ones have been sent to the Strong Room (a room where the most precious specimens pertaining to all departments are kept). The shields, quivers, arrows, bows, etc., have been kept on the open steel shelves inside the room. Each object kept in this storage bears a tag which declares its accession number and its type. It helps in locating the specimen, in verifying it and also in finding out what is where.

Ideally every weapon and in fact every art object inside the storage should have been chemically treated even before its admission to the store but keeping in view the magnitude of the task before the single Chemical Laboratory of the National Museum, New Delhi, which naturally has to take care of all the antiquities of the Museum, it has not been possible to get all the arms and armours treated. Again, the chemical treatment of arms and armour, specially those badly corroded or rusted, is a time-consuming process, sometimes requiring several weeks for a particular sword or a dagger to be thoroughly cleaned. The Arms and Armour Department has, therefore, been sending regularly a part of its collection to the laboratory periodically.

The arms and armour, by and large, are sturdy items and normally do not pose the problems with which the fragile objects like the textiles and costumes or the delicate antiquities like the miniature paintings or the illustrated manuscripts are confronted, and, therefore, are less endangered, if at all, by their exposure to light or heat. It is easy to handle them, excepting, of course, the risk of the curator being cut by the sharp blade or injured with some heavy armour, and are also safe to move or shift them from one place to another. Hot, and stagnant surroundings which promote insect activity or fungus growth and other micro-organism are less injurious to the arms, barring a few specimens like the quivers, sheaths or shields made of leather or hide or some other organic material like ivory, horn, bone, etc., used as the handles of some edgedweapons. Even the rodents like rats, etc., do not pose a serious threat, though these may no doubt, cause some damage and are to be avoided in any case. But then the storage of arms has some peculiar problems of its own. The first and the foremost is the lack of adequate space. No museum, however big it may be, not even the huge armouries of the erstwhile princes or the gigantic godowns of the Ordinance Depots of the Ministry of Defence, can, provide enough space for all the arms and armour under its possession to be kept separately, simply because a single cannon may require that much of space into which hundreds of miniature paintings or thousands of coins can be stored. Leaving aside the smaller daggers, knives or arrows, most of the arms like the swords, the javelins, the clubs, the guns, the rifles or the armour like the helmets, the body-armour, the elephant and horse armour, etc., are quite long and heavy and naturally require a larger area, not to talk of the cannons, the *howdahs*, etc., which almost need an ante-chamber for each one of them. Thus no museum can avoid piling up one shield over the other or keeping pistols and revolvers as close as possible or even one upon the other (Pl. 62). It may not be an ideal method of storage but there is no other go unless the whole museum is converted into the arms storage. Care, no doubt, is taken that each item is properly wrapped in the tissue paper, brown paper or polythene, as the case may be.

It is easy to dust the weapons for which soft hair brushes are used. The periodical fumigation is done by the laboratory and the chemicals like napthalene balls and paradichlorobenzene are kept together with the objects to arrest the insect growth, if any.

The greatest enemy of the weapon is the rust which sometimes results out of humidity. Thanks to the exhaust fans installed in the storage and the care taken by the laboratory staff, the humidity is generally kept under control, still 80% of the arms suffer from the rust, which they had with them even before they entered the National Museum, New Delhi.

More than preservation the weapons need restoration and to be more rustic the repair. This may again raise the eye-brows of some of the modern museologists who strongly adhere to the concept that an art object should not be repaired, *i.e.*, nothing, not even a fragment, should be added to it lest its authenticity should suffer. But the arms and armour need a slight departure from this accepted norm obviously because all these pieces are or were the utilitarian instruments and were manufactured, not created as a fine art, for a specific function. Thus, there is no harm in fixing the detached hilt to a blade or mending a sheath or riveting a knuckle-guard to a hilt if loose, provided, of course, all these parts belong to the same weapon. No sane person will advice to fix a modern hilt to a 17th century Persian blade or provide nylon padding to a Mughal helmet. All that is suggested is that the arms and armour, owing to their constant use in war and chase in the bygone days, have become loose which are to be strengthened and those bent are to be straightened.

It is pity that the study of arms and armour has constantly been neglected in India so much so that till recently it was not even considered worth displaying in a museum mainly devoted to the art, archaeology and anthropology. It has done a very serious damage to this aspect of Indian art heritage and when the arms displayed in the gallery for public exhibition could not be given a fair treatment, their miserable plight in the storage can well be imagined. It is, however, heartening to know that the Salar Jung Museum, Hyderabad; the Sawai Man Singh II, Museum, Jaipur and the Pratap Shástragara, Baroda—all extremely rich in arms and armour, are giving to a serious thought to the reorganization of their galleries and the storages devoted to these specimens. Even in the National Museum, New Delhi, it is only a beginning as hundreds of arms and armour are still dumped into the wooden boxes or stocked in the cabins for want of space. However, well begun is half done and let us hope that sooner or later all the arms and armour in the reserve collection will be properly stored.

Suggested Reading

1. Haldin, Gustaf and Webe, Gosta, *National Maritime Museum*, Stockholm, 1952.

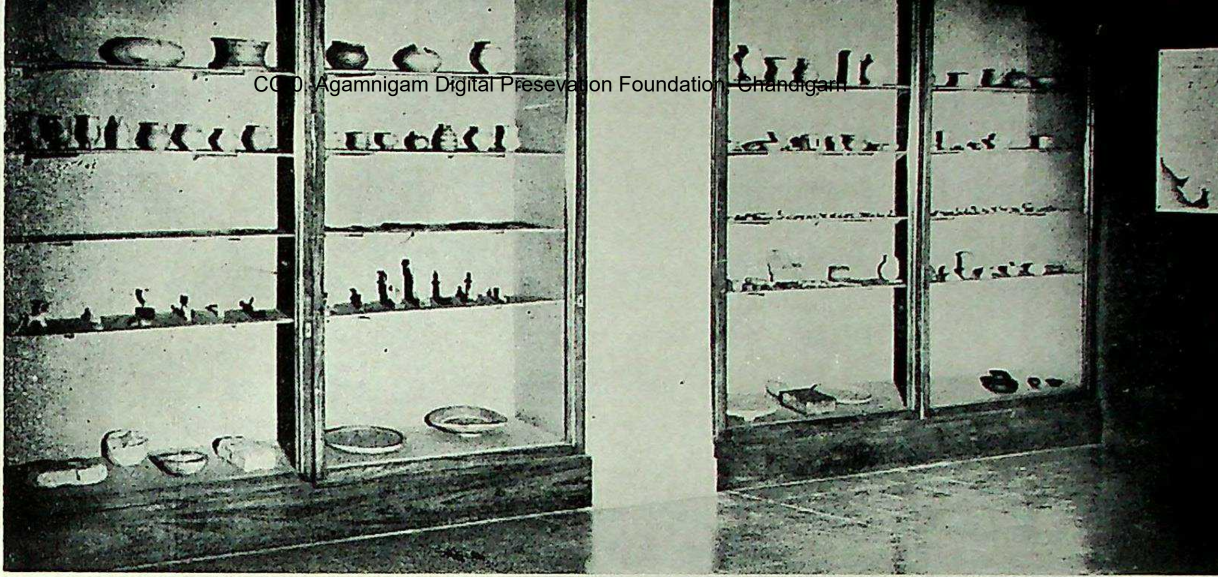


Plate 55 : An example of the use of the out-dated showcases in a museum for establishing a 'visual storage'. Provided with maps, charts and detailed group-lebels such 'visual storages' can be an ideal place for studying the material without putting forward any extra demand on curator's time (*courtesy* : National Museum, New Delhi).

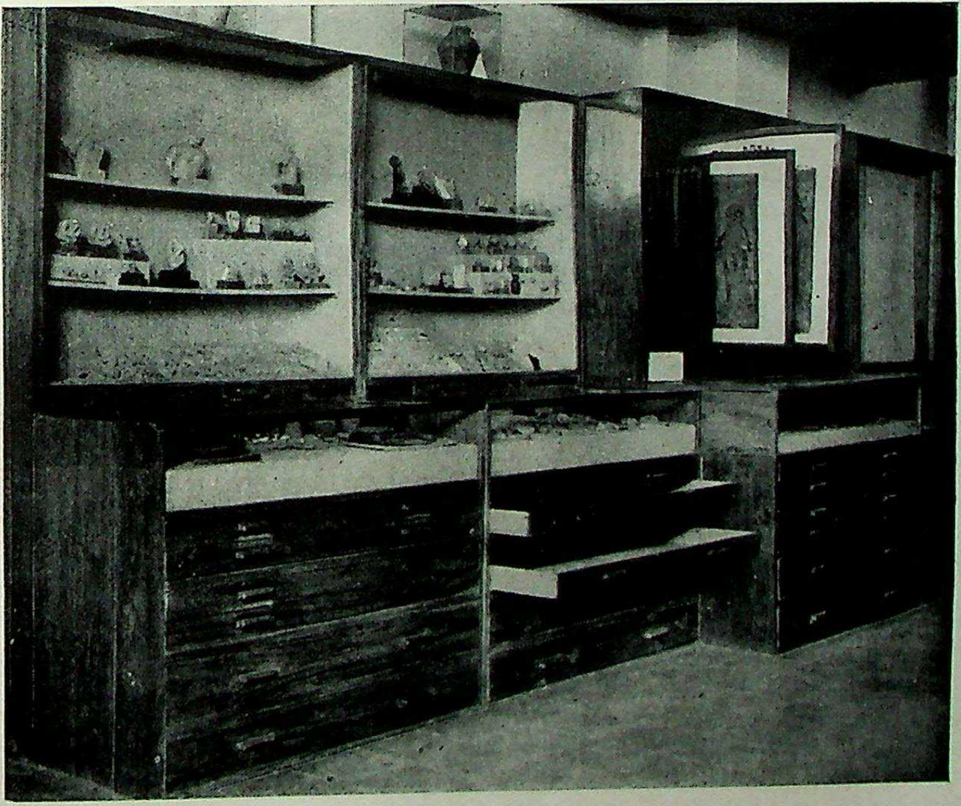


Plate 56 : Table-cum-drawers showcases in a 'Visual Storage'. While top shelves are used for exhibiting objects, drawers below are used for storing flat objects. Mounted fragments of painted cloth-banners displayed in the adjoining case can be pulled out for study by the interested visitors (*courtesy* : National Museum, New Delhi).

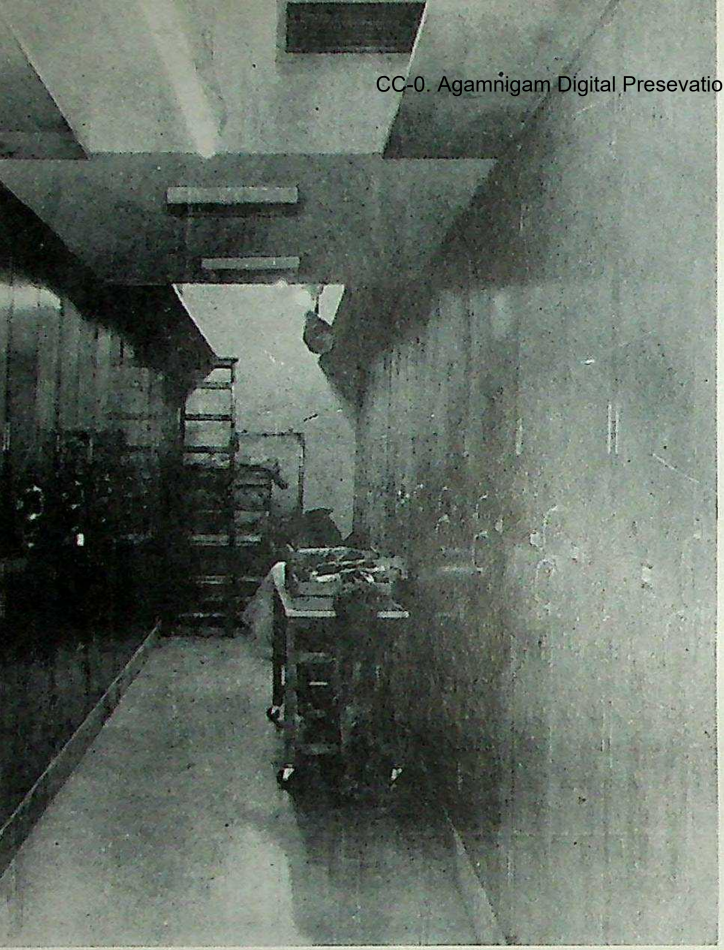


Plate 57 : General view of the Anthropological storage. Use of wheeled trolly and cotton-padded tray for handling the objects ensures their safety (*courtesy* : National Museum, New Delhi).

Plate 58 : Each object should be wrapped in alkathene or tissue-paper before being kept in reserve storage. A shelf-wise inventory, if pasted on the almirah, helps in quickly locating the object (*courtesy* : National Museum, New Delhi).

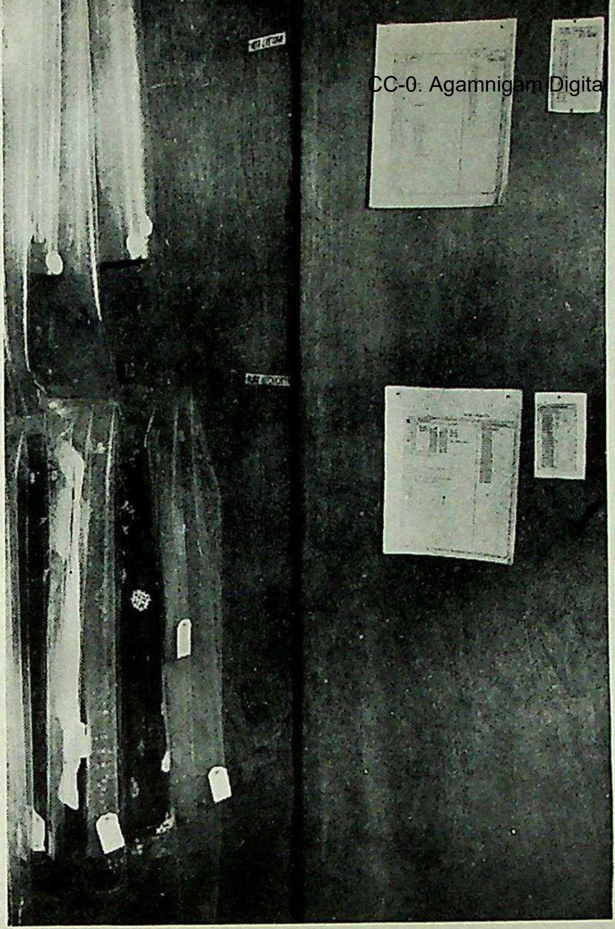


Plate 59 : Costumes and textiles should always be hung o
hangers or rolled on rollers but *should not* b
folded. Each of such object should be covere
either with alkathene or tissue-paper to protec
it from dust and colour-fading (*courtesy*
National Museum, New Delhi)

BOX-8
BOX-9
MEGHALAYA
MYSORE
NAGALAND

Plate 60 : Photographs and slides form important collection of an Anthropological department and should be stored in such a manner that they can be located easily (*courtesy* : National Museum, New Delhi).

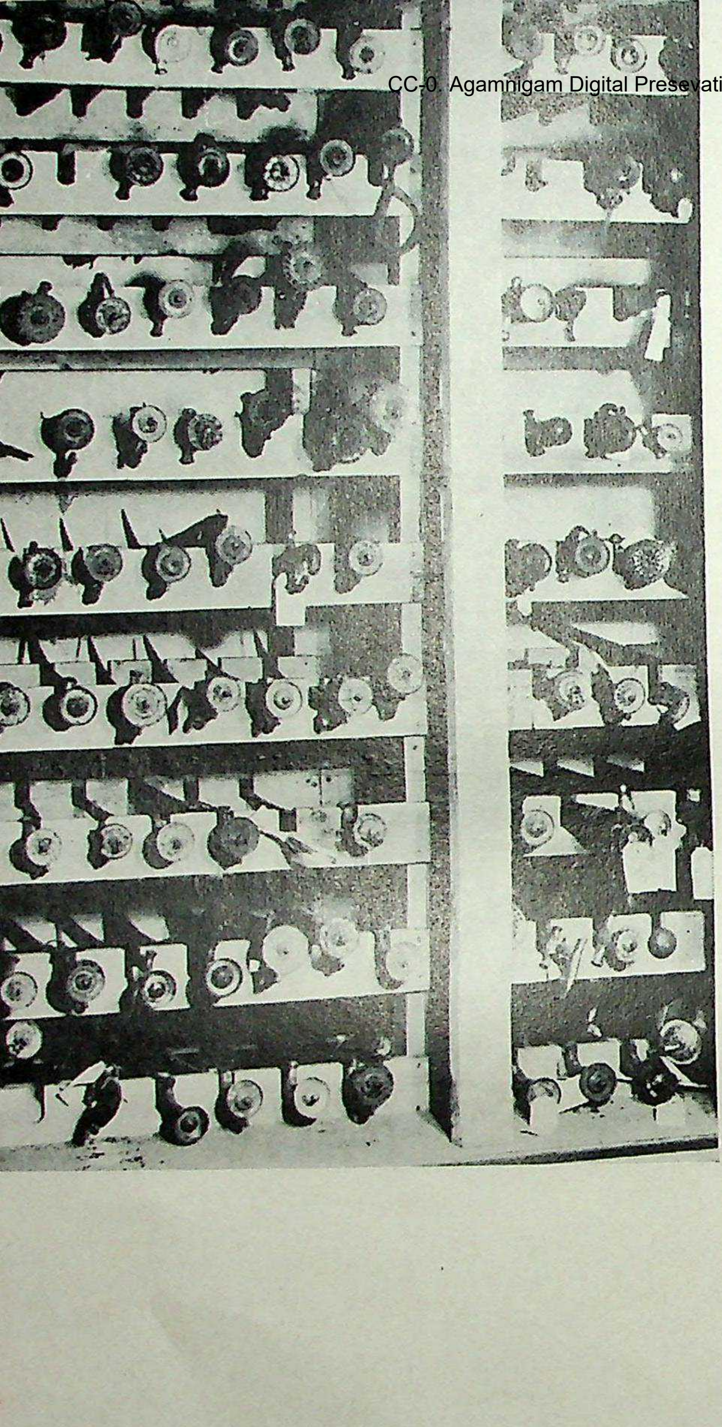
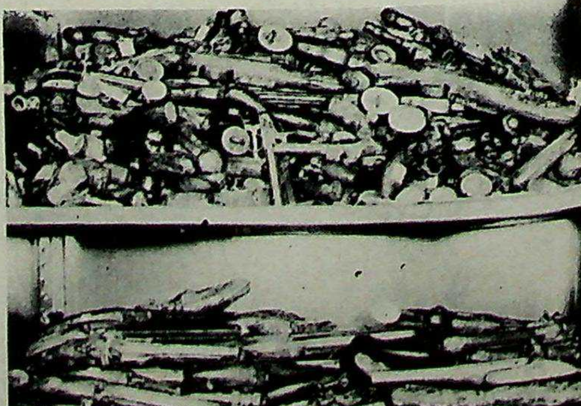


Plate 61 : The scientific way to store the swords is to keep them in wooden racks which have slots. Acc. Nos. should invariably be put on the hilts for locating the swords easily (*courtesy* : National Museum, New Delhi).

Plate 62 : Small fire-arms badly stored. Even if proper storage facilities are not available, each object should be wrapped separately either in a tissue-paper or in alkathene-bags and then stored in almirahs or boxes (*courtesy* : National Museum, New Delhi).



PART IV

Educational and Community Services

17

THE MUSEUMS AND THE EDUCATION SYSTEM

N.R. BANERJEE

1. Introduction

The museum movement in India is of comparatively recent origin, going back to 1814, when India's oldest museum, the Indian Museum, was founded at Calcutta by the Asiatic Society of Bengal. The movement has not, however, made a steady or rapid progress during the last 165 years. Nevertheless, the total number of museums, small or big, stand today at 400, and are variously owned, controlled or managed. They cover different disciplines, and are broadly classified as national, regional or local museums. For obvious reasons not all the museums are of similar standards in the diverse fields of their activities. Under the Constitution of India the setting up and maintenance of museums has been recognised as a state subject, but nothing prevents the Central Government or any other agency such as the Municipalities or the Universities or even the private bodies from setting up the museums.

A museum, regardless of its discipline, has various interlinked duties to perform such as : (*a*) collection, (*b*) documentation, (*c*) conservation, (*d*) display, (*e*) security, and (*f*) dissemination of knowledge. The role of museums as basically an educational institution has come to be recognized in proper perspective in recent time though all that needs to be done to enable the museums of India to fulfil this role remains yet to be done.

2. The Educational Role of Museums

Of the many functions of a museum mentioned earlier, the most important is the search for knowledge in its myriad facets, sustenance and furtherence of it and dissemination of the same among the masses.

This enormous function of growing complexity cannot now be performed by the limited staff of the museums and has, therefore, to be shared by the community as a whole. In the days of old, the temples and all other places of worship were the rallying points of the society and they served as cultural and social institutions. They also served as centres of education. In course of time this role has been considerably diluted, and the museums in recent times have come into their own to serve as educational and social institutions to serve the community. But enough advantage is not being taken by the prevailing education system or the society at large to make adequate use of the facilities and materials available at the museums.

In this area, the Science and Technology Museums under the National Council of Science, Museums are perhaps an exception. With their curricular programmes, visitor-participation displays and open-air museums in the rural areas, the annual science fairs and the mobile van programmes, they have forged ahead and have made real progress in the educational field. At the moment, however, their outreach is still limited, for they are located at the far-flung urban centres like Calcutta, Bangalore, Bombay and Patna. While those at Calcutta and Bangalore have been fully established, those at Bombay and Patna are in their primary stages. It is heartening to know that yet another Science Museum has been set up at Hyderabad under the State Government.

The National Museum of Natural History, New Delhi, is also education-oriented and its "Discovery Room" is at once a thrill, a challenge, a source of amusement, a means of education and a fountain head of fun for the child and the eternal child in the adult alike. Its programme of a drawing competition dealing with the Natural History held sometime ago was a great success and popular and is an index of further achievements afield.

The Rail Transport Museum in New Delhi serves the purpose to an extent through its attractive displays of the exhibits to remined us all of the progress made by us through the centuries in locomotion, also through a system of visitor participation.

This is not to say that other museums do not have an inbuilt mechanism for serving as educational institutions. Some museums are indeed fortunate to have a separate Education Department, but most museums do not have it, and have to fend for themselves to make the best use of their limitations to fulfil their basic duties, also in the field of education.

In this context it would be legitimate and germane to consider the views of some makers of the nation on the educational role of museums. The late Sir Asutosh Mukherjee was one of the first Indians to emphasize the educational role of museums in unequivocal terms. Speaking on the occasion of the centenary of the Indian Museum, Calcutta, on the 28th November, 1915, Sir Asutosh said, "I have no desire on the present occasion to enter upon an exhaustive discussion of the true functions of a museum in relation to the community at large......It is now generally recognized that a museum is an institution for the preservation of those objects which best illustrate the phenomena of Nature and the works of Man, for the utilization of these in the increase of knowledge and for the Culture and Entertainment of the people". He went to say that a museum "must be equipped adequately for the fulfilment of three principal functions, *viz.*, first for the accumulation and preservation of specimens such as forms the material basis of knowledge in the Arts and Sciences; secondly, for the elucidation and investigation of specimens so collected; and thirdly, to make suitable arrangements calculated to arouse the interest of the public and to promote their instruction". In regard to the role of the museum as an educational institution he added that the museum should be "an adjunct to the class room and the lecture room; secondly, as a bureau of information; and thirdly as an institution for the culture of the people".

The late Jawaharlal Nehru said on the occasion of the centenary of the Government Museum, Madras, in 1951: "the whole point of museums, whether they be museums of antiquity or museums of modern life, is that larger and larger number of people should visit them and learn from them. They should not be confined to the visiting Directors of museums from other countries. More and more people should come, learn and, in fact, facilities for learning should be made for, lectures to be given to the ordinary folk who come there for guides to explain to them what these things are and arouse their interest in them, especially school children and college boys and girls. That is the main purpose of museums. I would not very much mind if no adult comes to the museums because his mind is made up and not always capable of learning much but in the formative period of childhood and youth it is essential that people should come to museum and learn. Their mind will be affected by the objects which they see there. I should like this aspect of education through the museum to be developed not by appeals to the public, but by encouraging and inviting people to come, inviting not merely those who would normally come, but also those who would not otherwise come, persuading them to bring their children and explaining things to them, so that they may widen their vision and feel that the world is a bigger thing than they normally believed to be".

Nehru said again on the occasion of the formal inauguration of the National Museum on the 18th December, 1960 : "The museums are not just places to see odd things or *ajayabghars*, as they used to be called. They all should be essential part of the educational system and cultural activities of the country. What is more, they are places for public education. Private houses may have works of art and beauty, but they are not open to the public. It is important that every city possesses a museum and I would add, even villages have their small museums wherever possible".

3. Need to build a larger number of Children's Museums

Nevertheless, the number of Children's museums in our country is also small. Apart from the Children's Museum at Lucknow, the Bal Bhavan and the International Dolls House at New Delhi, the Childrens' Museum at Amreli, Gujarat, and the Nehru Children's Museum at Calcutta, there are hardly any that are worth mentioning. One could wish for setting up a larger number of museums in the Year of the Child. Some of the larger museums may perhaps organise special exhibitions aimed at the child or mount such exhibitions in their museum-buses and take them round the country and especially to the villages and create enthusiasm among the children. Last year Prof. V.K.R.V. Rao had suggested the idea of a museum train to tour the country. This idea can be translated into practice by the major museums of the country as a combined endeavour. As our Education Minister once suggested, we may even devise a scheme to award handsome cash prizes on the best on-the-spot essays on visits to the museums.

4. The propagation of Culture Scheme and the Museums

In this context it would perhaps be worthwhile to emphasize, even at the risk of its being called a cliche, that if the museums are to fulfil their duties in the long run, they must aim at the grass-root level, for 'it is the early bird that catches the worm'. In the field of arts, crafts, dance, drama, music and literature, an effort has been made to make use of the National museum to serve as focal point for a scheme launched a few years ago by the Department of Culture in collaboration with the National Council of Educational Research and Training, and the Delhi University for the "Propagation of Culture" among the school and college students. The scheme is based on the principle of "If you wish to educate the children, educate their parents first". The role of the school teacher is pivotal in the education system, for in the early formative years of a child between the ages of 9 and 15, he or she places the most implicit faith in the teacher, who is regarded as infallible. The scheme aims at educating the teacher in the fundamentals of our culture and traditions, and our arts and crafts, so that they, in turn, may transmit their knowledge to their pupils in proper perspective and generate their interest and pride in our past, titillate their spirit of enquiry, make better citizens of them and promote national integration at the grass-roots level.

The ultimate objective is to cover every secondary school or college or educational institution in India gradually and provide each with a "mini-museum" of 20 plaster cast copies of 'sculptures through the ages', a "mini-library" of a book on *Birds and Animals in Indian Art* and about 10 cyclostyled books of lectures on the different subjects, besides a set of casettes recorded with 10 hour lecture demonstrations, a set of 500 slides of our art and architecture, a tape-recorder and a projector, respectively. This is only a modest scheme of initiation and has already aroused great curiosity and enthusiasm among the teachers, who have found a new source of joy in life and a meaning for the nobility of their profession. The scheme owes itself entirely to the guiding spirit of Dr. Kapila Vatsyayan, Joint Educational Adviser in the Department of Culture, who had not merely conceived of the idea, but has given a concrete shape to the programme and has been working untiringly for the improvement of the scheme through changes in response to the demand and needs, using the National Museum as focal point. So far 29 courses have been held and 1800 teachers have been trained. The number of kits distributed is 800.

The cue has been taken by the International Women's Club of Delhi and they have formed a group to orient themselves in the Indian History and Culture under the auspices of the National Museum, almost on similar lines, with a view to acquainting themselves with the Art and Culture of people in whose midst they have to live a good and memorable part of their lives. This is a great step forward, as similar orientation for all parts of the world would not merely promote knowledge and pleasure but better understanding of farflung, of peoples of varying cultures, and eventually this knowledge and understanding would percolate to the children and once again to the grass-roots of the wide universe. This only shows what great potentials the museums have in imparting education with a great deal of pleasure and no pain whatsoever to those who receive it.

In the light of the experience gained, it is felt that the similar schemes for the Propagation of Science and Technology or Natural History would be equally popular and would be immensely beneficial to the teachers and school children alike, if not also to the adults.

This system can be made much more effective by the introduction of a visitor participation programme for imparting instructions in the basic principles of Science and Technology and their utility and application to our daily lives. This would not merely break the barriers of inhibition or shyness but will also promote a spirit of enquiry and exploration among the juvenile museum visitors and adults alike. However, owing to factors of financial involvement, experiments in this direction can only be attempted limitedly for the time being. Nevertheless, the system should be introduced and given a trial in other spheres than art and culture as well. Some programmes already exist in the Science Museums, and they can be further intensified.

5. Museums and their contribution to Education and Research

Apart from providing the fundamentals of knowledge in the specific fields, the museums preserve and provide the basic materials of research in practically all the academic disciplines, namely, Archaeology, Arts, History, Dance, Music, Literature, Botany, Zoology, Geology, Mineralogy, Agriculture, Medicine, Physics and Chemistry, Science and Technology, etc. The guardians of the museums in all areas are also expected to be almost supermen, for not only do they have to have intimate knowledge of the materials and disciplines under their charge, but are being called upon to undertake research of high order so as to be able to earn their position in the first place, and to continue working hard at it in order to be able to retain their position, and also be a ready teacher, being required at short notice or even with regularity, where regular arrangements or demand exist, to open their mouths and speak on the displays to audiences of varying levels of understanding at all times of the day. Their normal duties also include the documentation of the objects, constant efforts to acquire fresh materials or to experiment with fresh methods of displays, arrangements for exhibitions around selected themes, both at home and abroad, and publish their researches for the connoiseurs and the common man alike, besides bringing out handbooks, guides, brochures, pamphlets and posters, etc. They are also charged with the responsibility of the security of the objects under their charge against destruction by fire, humidity, excessive heat, variation of light, moulds or by pilferage and several other agents. They have also to carry out much administration work in addition, in their stride, to sustain all their work and yet maintain the bland and attractive facade of the displays as well as of mien and conduct.

6. A plea for the Integration of the Museum into the System of Education

The plea made here is obviously for the integration of the museums into the entire educational system from the school to the university level, by the recognition of the museum as an educational and research institution and by the provision of a mechanism for its proper utilization for the entire purpose of education and research. In a sense the museums are functionally comparable to hospitals in medical institutions. Just as it is unthinkable to instruct anyone in physiology or anatomy or medicine or surgery without the use of the patient in a hospital or skeltons in the cupboard, not to speak of the hapless bodies in the morgue, it would be a truism to insist that no education in any discipline can be completed without a museum in the discipline concerned. This applies particularly to the museology courses run by the universities. By and large many universities do have departmental museums, as teaching aids, but clearly, barring a few exceptions, they are too inadequate and unrepresentative in content and are not entirely satisfactory as museological institutions. These are often not true museums as neither their displays, nor lighting nor labelling, are as they ought to be in a museum. They are also often not open to the public as a matter of rule. Some universities indeed have full-fledged museums, such as the Asutosh Museum of the Calcutta University, specializing in the folk arts and crafts, or the Bharat Kala Bhavan at Varanasi, specializing in fine arts, or the Archaeological Museums of the Deccan College and the Allahabad University, specializing in archaeology, or the Museum of the Rabindra Bharati University at Calcutta, specializing in contemporary art, etc. Examples can be multiplied. But none of them can be cited as outstanding example of museums, with due apologies to them all, even through they may have outstanding collections. The reasons are not far to seek, and, to my mind, the present situation can be set down, to an extent, to inadequacy of support to these institutions, both in terms of manpower and money, and inadequacy to importance attached to the role of the museum in the education system of the universities, regardless of where the responsibility lies. The situation would arrest our attention and call for rethinking on the matter. If it is realized and recognized that the museums do indeed play a vital role in the entire education system in the country, they have indeed to be integrated into the education system. On the one hand, the school curricula should include visits to the museums and attending museum lectures on specific subjects, and, on the other, the museums should be recognized on their merits as educational and research institutions by the universities, and the museum staff should be given the respectability of the university teachers, regardless of whether they are part of the university or not. It would be proper in this context to refer the relevant recommendation that had been made, about a decade ago, by the Moti Chandra Review Committee on Museums, which was appointed by the Govt. of India in 1969 to work out a National Policy on Museums, specifically in regard to the status of the museum staff *vis-a-vis* the universities.

The Committee had recommended that some of the supervisory and technical posts in the museums at the national level should be equated to comparable posts in the universities as follows :

Keeper/Curator	: Professor
Dy. Keeper/Dy. Curator	: Reader
Curatorial Associates	: Lecturers
Curatorial Assistant	: Junior Lecturer

Furthermore, the Committee also expressed the view that the specialized nature of duties performed by the museum personnel actually carried far greater responsibility than those of their counterparts holding comparable posts in the universities.

What applies in the view of the Moti Chandra Committee to the museums at the national level applies with equal force to the more important museums in the country, which are invariably further handicapped by being inadequately manned. This is not to concede that the national institutions themselves are adequately manned.

In contrast, it would be worthwhile to mention the staffing pattern of the well known Museum of Indian Art in West Berlin (Stastliches Museum fuer Indische Kunt). It is headed by a Director who enjoys the status of a Senior Professor at the Free University of Berlin, even though museum is a Government institution, and he is assisted by contingent of staff consisting of the following :

(1) Secretaries	: Two
(2) Keeper	: One
(3) Scientific Asstt.	: One
(4) Volunteer	: One
(5) Restorers	: Two
(6) Technical Asstt.	: Two

With all these the total number of objects, including the minutiae of potsherds and beads, is 10,000, and there are three Departments to share this number.

The comparatively poor staff position in our museums is well known. Their staff strength is very much smaller in contrast, and they enjoy much lower status and have a much shorter tenure of service than their western counterparts. This major museum in Berlin is comparable in terms of the volume of its materials to only one of the smaller Departments of the National Museum such as the Decorative Arts or the Anthropology, etc., and some Departments have as many objects as this museum, and some six times the number, and there are 10 Departments in all.

7. Need of an integrated development of museums

This brings us to the equally important question of an integrated growth of museums, and the eventual need of setting up museums at villages, schools, towns and districts in close link with the State, Regional or National Museums, as well as the specialized institutional and university museums. The possibility and need of an integrated development of all museums in the same discipline has been outlined in a separate paper by the present author addressed to the Museums Association of India. It would be idle or impractical to think in terms of a monolithic structure of a Museums Service of India to cover and administer museums of all types, but it should indeed be possible to think and act in terms of a dichotomy and interrelationship at once among the museums in each discipline at three levels, namely : (a) National, (b) Regional, and (c) Local, respectively, with a mechanism for coordination among them all along the line. The coordination is also not envisaged as administrative, but only at the technical and academic levels, and would include cooperation and collaboration in the holding of exhibitions, exchanges of objects, help in display and conservation and implementation of education programme and furtherance of researches by mutual consent, and for the general well being of all.

8. Need of training and research in the conservation of cultural property at the universities.

In the rather specialized field of conservation of museum objects, the facilities available in India today are far too little in comparison with the obvious and actual needs. In view of the importance of the subject, some practical thought may be devoted to the undertaking of research and training in the conservation techniques in some of the universities, if only to supplement the efforts that is presently being made by the Government in this direction. While the efforts that has so far been made in the field of conservation is indeed laudable, it is patently inadequate for a country of the size of India, and it is high time the universities recognized the importance of the discipline and did something to promote and proliferate knowledge of conservation as well as research in the area as quickly as possible. Mention must, however, be made for the very valuable contribution made in this direction by the M.S. University of Baroda and the Banaras Hindu University in the recent years. To begin with, one of these centres may be built up as a Central University Conservation Laboratory, for analytical and applied research, conservation of museum objects as well as for the training. *A Museum of Analysed and Conserved Objects* can as well be set up at the chosen centre to serve as visual symbol of the work done. This may pave the way for founding similar centres at other places in course of time in the light of the experience gained, and setting up a network of conservation laboratory-cum-training centres attached to the museums under the universities.

The practical aspects of the employment potential of university trained people in the discipline of the conservation cannot, however, be overlooked before a scheme is launched. But we can take comfort from the fact that museums are growing institutions, and more institutions are coming into existence every day, and there would always be sustained need for the conservation of the cultural property at all times also in the unforeseeable institutions of the future. We must also take into consideration the fact that a far larger volume of vulnerable cultural property in the form of manuscripts, paintings, textiles, metals, coins, leather goods, and wooden objects, etc., still continues to be with the institutions or the individuals who cannot afford to expose their heirlooms to the costly and time-consuming processes of the conservation, even though the need to conserve them all from the nation's point of view is insistent and a compelling force. The university centres of conservation may also take up the conservation of materials in the possession of such individuals against some payment, and the money receipts may meet part of the expenses to support the scheme.

The point that is sought to be made here is not merely the importance of the conservation work but also the enormity of its volume and the continuous challenge posed by it and the need for the recognition of its rightful role in the museum and in the education system, as an academic discipline and practical professional advancement.

9. Need to develop museums or collections for extra-Indian art and archaeology and of expertise in these areas

It may be stated that the approach of the museums in India, in general, and the education system in their academic discipline in particultar, is rather limited. In spite of the established fact that neither history nor any of the products of history can grow in isolation, we have few experts in the archaeology, history, anthropology and art of our immediate neighbours, not to speak of those further afield. We have no sizable collection of the materials of any of these areas in our museums. Though we have a unique collection of the Central Asian Antiquities and Murals, ranging in point of time from the third to the ninth century A.D. at the National Museum, New Delhi, we have only a few experts in the arts and archaeology of the Central Asia, and almost none in the areas of Egypt, West Asia, Afghanistan, China, Korea, Japan, Sri Lanka, Burma, Malaysia, Combodia, Thailand, Vietnam or Indonesia, not to speak of the regions further beyond. This is sharp contrast to the situation prevailing in the West. It is perhaps in the normal course of trade that objects of art, anthropology and archaeology from all parts of the world have travelled by the normal interaction of the laws of supply and demand to the museums of the West. But it also speaks volumes for the eclecticism and catholicism of private perspicacity and afluence that have primarily provided the present and future generations with the opportunities for not merely learning the history, traditions, languages, religions, sciences and arts of the diverse parts of the world in the Western countries, but also for building up the expertise in these areas.

There is no comparable situation in India, but for the lonely figure of Salarjung, who did indeed assemble a motley collection of the arts of the east and west, as best as he could appreciate and afford. There are indeed a few isolated instances of extra-Indian collections in some of the museums in India such as the Prince of Wales Museum at Bombay or the Baroda Museum and Picture Gallery, or the Salarjung Museum at Hyderabad but they do not add quantitatively or qualitatively much to compare with the extra-territorial contents of their counterparts in the West or even to form the basis of substantial extra-Indian studies at home. Nevertheless, the need to develop expertise in these areas, and to build up nuclear collections of extra-Indian art by a judicious system of coordinated exchanges between the museums in India and abroad can hardly be over-emphasized. At the same time courses for the building up of the expertise in these diverse areas may be provided in the universities as well as in the museums. This by itself is not enough. The experts must also have opportunities to develop and advance their expertise in suitable institutions that may be set up with an integrated system of promotion *in situ* to enable them to intensify their expertise and proficiency to the highest level and to prevent them from becoming wandering minstrels constantly in search of food and shelter with a begging bowl in hand even by changing the lines of their choice or specialization under mounting economic pressures. This is an area in which the universities can make a solid contribution in collaboration with the Archaeological Survey of India, the National Museum, other major museums of the country and some of the established museums of the universities. Even an humble beginning at one centre would surely lead to the tremendous progress in the course of time. There should be no bar to inviting the visiting professors from abroad, if necessary, to initiate the courses before the Indian experts can fend for themselves. This is not a mere academic luxury for such courses would also promote better understanding of the motive forces of life through centuries in different parts of the world, and help us to come closer culturally and politically.

10. Need to develop Tribal and Folk Art Museums and to build up expertise in the universities.

It would not be an exaggeration to say that the vast treasures of the so-called tribal arts and crafts as well as folk arts in India do not receive the measure of attention from the Indians from various reasons such as their fistance from the elitist urban areas where sophistication snobbishly thrives, as well as due to their simplicity, if not crudeness. The recent discoveries of the paintings in the Bhimbetka area near Bhopal have proved to hilt that the traditions of the arts, including the very motifs and motives, go back to our pre-historic days, and constitute the hard core base of our later sophistications. Yet they are fast disappearing through the depredations of time, growing apathy of the concerned tribes or folks in their own cultures in the wake of the benefits of modern education and living, ignorance of the urban elitists and, to no less extent, through the collections made by the lovers of cultures of the tribes and folks from all parts of the world, for they do not come under the prohibitive purview of the Antiquities and Art Treasures Act, 1972, or the Wild Life Protection Act, 1972, or even under the Customs Act.

The Anthropological Survey of India with its network of offices throughout India is, of course, doing its best to gather and preserve the traditions of the tribal cultures and also setting up tribal museums at the different centres. The tribal welfare or research institutions are also contributing their mite in this direction. In this context the step taken by the Government of India to set up the Museum of Man in the idyllic background of Bhimbetka and in the environs of pre-historic and tribal India at Bhopal is highly laudable, all the more so because of its ideal distance from the idle sophistication of the capital of India. While the projected Museum is yet to came into existence, there is a lot that the universities can do to promote the anthropological studies in the universities by intensifying the courses where they exist, and by instituting courses in centres where they do not, and also by setting up museums in conjunction with the courses both for collecting the specimens of the tribal and folk arts and crafts and for teaching the subject under the auspices of the universities.

In this context mention may be made of the 'Village Complex' built up at the Pragati Maidan on the Mathura Road in New Delhi, where a cross-section of rural India, in all its faithfulness and charm, has been erected for the delection of the busy denizens of the capital. The very fact that the complex attracts and informs and causes no end of delight to all those who just saunter into it, is the justification for the plea earlier made for setting up museums of tribal and folk arts as much in the tribal or rural centres as in the urban areas, the former to foster pride among their makers, and the later to make the town-folk and urbanites aware of the richness and variety of our cultural heritage. It is in the fitness of things that the 'Village Complex', also forming an example of an open-air museum, is under the Crafts Museum, New Delhi.

11. Conclusion

In conclusion, it may be stated that the educational role of the museums and their importance in a country, where the majority is uneducated, need not be overemphasized. The urgency, therefore, of integrating the museums with the educational system in the country at all levels, and recognizing suitable institutions as educational institutions of universities status can only be indicated and urged. To achieve the objective of education within a short period and yet keep it as on going process, it would be necessary to set up a large number of museums specially Childrens' Museums at all levels and support them adequately in order to enable them to discharge their educational duties properly at the basic level.

In view of the imminent and existing threat to the objects of tribal arts and crafts as well as folk arts, it would be most desirable to collect such materials on an extensive scale at an early date, and to set them up eventually with well documented data at the museums for the purpose of preservation of the traditions and making investigations into them and for the purpose of the education of the masses into the thought processes and aspirations of the tribal and simple people who are rapidly changing their ways of living, particularly also because the extant objects themselves may soon be extinct.

As a matter of fact, the working group set up by the Department of Culture, Government of India, towards the end of 1977, has made a strong recommendation for the development of museums in India to make them more education-oriented and emphasized the need of setting up museums at the regional, state, district and village levels towards achieving the objective, all as a phased programme under the Sixth Five Year Plan.

It is hoped that these ideas will receive due consideration at the hands of all concerned.

Suggested Reading

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18

DEVELOPMENT OF AN ART MUSEUM—A CASE STUDY

ANAND KRISHNA

The Bharat Kala Bhavan is a University Museum of the Banaras Hindu University, Varanasi. Long before it was merged into the University, it had attained the reputation of having a distinguished collection of Indian art, especially of Indian paintings. It was, and still is, widely used by the scholars on Indian art and thus the collection's masterpieces have been published by almost all the important writers in this field.

The basic idea behind the Bharat Kala Bhavan (under its parent body, Bharat Kala Parishad) was to run schools of music and painting, a concept to understand the Indian art in its totality, which unfortunately could not be continued beyond its initial years. Fortunately the Banaras Hindu University opened the college of Music and Fine Arts in the same year as the Kala Bhavan merged into it.

The reasons for the transfer of the Bharat Kala Bhavan were not purely academic, but also to provide it a decent house and enough scope to develop. As it arrived in the BHU campus, the problem of integrating it with the local community and the stream of academic life or other programmes of the University also cropped up. This coincided with an unprecedented growth of interest in the studies of Indian art within the country and outside. Moreover, the decades following the independence witnessed the expanding horizon of knowledge in the field of art. This was possible mainly due to the availabilty of the palace collections which poured into the art market because of the political changes. The main beneficieries were the National Museum of India, New Delhi, under the able stewardship of Dr. Grace Morley, the Bharat Kala Bhavan and the Prince of Wales Museum, Bombay. The scholars, both Indian and foreign, have been visiting this Museum, which grew into a forum for exchange of ideas. Nevertheless the question of developing the Kala Bhavan as a living centre of art is still a challenge. The Banaras community which produced good art and craft till the turn of the last century and even till the beginning of the present century, should be so divorced to its tradition and art, leaving a blank in our sensibilities, is an irony of circumstances. Today the visitors have to be introduced to the artistic wealth of our museums.

Urbanization, resulting out of wanton industrialization, topped by formal education, at the cost of traditional or personal experience, are perhaps the main culprits.

A museum with wide ranged collections of high quality, can be a very good medium to combat the situation in introducing the old values of life. A museum like the Bharat Kala Bhavan is best suited for this purpose as it opens up a new vista. What have we been doing in that direction ? The only opportunities, besides the normal and to some extent the formal presentations in the galleries, were the special shows or celebrations, which invariably attracted quite a substantial number of participants and audience. Thus, this can be developed as a potent medium to propagate the museum's message. Such programmes need to be enlarged by proper funding and careful planning.

The Bharat Kala Bhavan is placed in the eastern U.P., a region noted for its rich artistic and cultural heritage, saturated with its folk tradition in music, poetry and theatre, myths and legends. However, it was adversely hit with the growing formal education, which alienated the new generations from their families and homes or the soil, thus creating a void. The gap corrupted the taste of the new generation and developed apathy towards its own heritage. The case is aggrevated by decades of formal education. This is proved by a survey of the folk arts and crafts traditions by Shri Muni Singh of the State Museum, Lucknow. It was revealed through his untiring efforts that the traditions were almost unknown even to the middle-aged person, say people below sixty. Moreover, whatever material he could collect was from the illiterate and down-trodden people, specially the old women. This reinforces our above surmise, namely, the adverse role played by the formal education in this direction. For example, if we find a fiftyish man ignorant of his background, we get to the thirties of the present century as his boyhood period when this change took place in the education pattern and brought the consequent change in his outlook.

The other culprit is the Hindi movie which hardly needs detailed explanation, yet it can not be spared for its projection of completely artificial recreation. It ruined the taste for art, the age-long sensitivity to arts was annihilated with the advent of the Hindi cinema. The downfall of the local tradition and crafts was accelerated by the rapid mechanization. The men and women suddenly and unwillingly found themselves landed in no man's land. Traditionally, while producing crafts, they handled the raw material and acquired a direct relationship with the evolution of the object. For example, Kabir could sing in raptures, while working on his loom. As the Hindi cinema drove the village theatre out of the villages, so the mechanized goods left no chance for the village craft. Whatever village creativity was left was looked down upon as "boorish". To sum up, the loss is irrepairable and we don't see any conscious effort to stop the process of unconscious degenaration in culture.

Inversely speaking, since the other Indian languages were not under such heavy fire of their "movies", till the last decade, their traditional village theatre survived and they could produce their theatre-novo much quicker than in the Hindi world. Whatever we could do here in this context was mainly due to Hindi creative play-writer or stage-people. Here comes the role of an Art Museum like the Bharat Kala Bhavan to bridge the gulf.

Undoubtedly the concept of museum's role as a potent medium of continuing education in India is a gift of Dr. Grace Morley to our country. It is due to her untiring efforts that we have started programmes of public education in the museums of our country. These programmes are extremely helpful in the development of our museums as a source of wisdom. The Bharat Kala Bhavan has, however, not been able to achieve much in this direction, despite best of its intentions to implement it. Being the custodians of our culture and art, no other agency can be more effective than the museums. Tradition is always a cumulative experience, but when it is properly used, it becomes a personal experience, both from the artist side and from the visitors point of view.

This principle is similarly applicable to the courses of studies in the History of Art and on the research and publications in the field. While some of our universities are following such courses of studies vigorously, by producing literally hundreds of M.A.s or dozens of Ph.D.s in this field, we should search our hearts to justify our existence. The writings, in our field so long they are lost in the maze of dates and regional attributions, will be more or less the exercises in history and not in the History of Art. For this subject needs more formal assessment and examination of the creative qualities of an art work. Rich collections like the Bharat Kala Bhavan, can be an unending source of inspiration to the researchers in this direction. A properly modelled publication programme can project the outcome of such projects. The key to this problem, no doubt, is in the hands of the younger generation.

Being in the Department of History of Art (still designated as the Department of Art & Architecture) at the Banaras Hindu University, a sister Department to the Bharat Kala Bhavan, we are alive to the situation in the teaching of this subject. Similarly, the research problems are also there ? Yet the museums and their collections can only be well used if we have a capable team of students and the collections are within the easy reach of the researchers. On the top of everything, the publication spaces are not freely open to the Indian writers. The process of writing and its publication is interlinked and cannot be judged in isolation. The result is, for example, that till today we have no such textbook on the Indian Art which can replace A.K. Coomaraswamy's *History of Indian and Indonesian Art*. The new finds or their interpretations are simply not available to the students. The museums are looked forward to take the lead in this direction.

The other programme where the Bharat Kala Bhavan needs a thrust is to provide the art education through the Hindi medium, of situated as it is in the heart of the Hindi speaking religion. The initial efforts in publishing the Hindi quarterly, *Kala Nidhi*, could not go beyond a point. This was mainly due to the lack of financial support.

A Post-Graduate Diploma Course in Museology was started at the Bharat Kala Bhavan some ten years back. As is usual with the other activities of this museum, the experts like Dr. Grace Morley were invited to lend their support, and she readily extended her expert advice. Now the course has been remodelled and from the next year or so the museum would be offering a full-fledged Master's Course in Museology in line with the other such courses in our country.

What is the logic behind opening a Museology Course at the Bharat Kala Bhavan while other courses were already operating in our country ? The idea to start such a course was definitely linked with the concept of connoisseurship, which had been raised in the seminars sponsored by the Museums Association of India, and projected under the leadership of Dr. Grace Morley. Therefore, when we assembled under her shadow in the museology programmes the topmost demand was to expose the students to this concept. The Kala Bhavan offered a unique opportunity. It had already a huge collection of Indian art, built up with care and discriminative taste and covering almost all branches of Indian art and crafts.

Moreover, the Kala Bhavan was, and continues to be, a developing Museum, with its innumerable problems, which a developing museum of this size always has to face. Nothing could offer a museum trainee to go into the roots of these problems than to be in the stream of the museum activity itself. The P.G. Diploma Course was, therefore, designed so that the student could derive the utmost benefit out of this experience, besides acquiring the basic knowledge of museum administration, curatorship, etc. The course attracted many M.As. in Art and Architecture (History of Arts) and, therefore, they possessed rudiments of the subject. This was the forte and could be exploited to an unlimited length.

Yet another point crops up at this juncture : what would be the position of the museum training of connoisseurship in the traditional concept of *guru* and *chela* relationship *vis-a-vis* the Museology or the Art History Courses in our country ?

In either case it is the transmission of ideas which the traditional system of education underlined. If art-history and museology are creative activities, the above situation has to be taken into account. After all one's instinct should respond to the art collections, to enhance sensibilities and deepen one's sense of investigation, to derive a pleasurable experience in the task.

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ENVIRONMENTAL EDUCATION—AN EMERGING ROLE OF NATURAL HISTORY MUSEUMS

S.M. NAIR

The conventional function of the Natural History Museum all over the world, until about a decade ago, has been the collection, preservation and display of the natural history materials as well as research relevant to these activities. A new dimension, recently added to this function, is 'environmental education' which is the result of the realization on the part of the forward looking educationalists in these museums about the need for joining hands with organizations like the World Wild Life Fund, International Union for Conservation of Nature and Natural Resources as well as other voluntary and governmental agencies in their fight to save our environment.

The relationship between man and the environment has been continuously changing. Man's skill and ingenuity in manipulating the environment have produced tremendous benefits to human life. We have learnt to control most of the communicable diseases, produce bumper crops, energy, travel at fantastic speeds and so on. In using our scientific and technological advancement for the benefit of man we have failed to consider some of the serious consequences flowing from this technological revolution. The pollution of the air and water has become a major problem in many industrial cities affecting not only man's health but the future of other living forms too. Deforestation and indiscriminate felling of forest trees have started affecting our climate and soil. Unscrupulous killing of wild life has brought many species to extinction and some to near extinction. The lavish use of the pesticides has created problems of air and water pollution. By uncontrolled multiplication of his own species, man has created problems for himself.

Today more and more people wihin our society are becoming conscious of these and the consequent need to develop a new environmental ethic. It is being increasingly realised that man is dependent on and is a part of an eco-system which he did not invent and must not destroy. Various agencies are working towards this end. It is recognised as a global problem and every individual will have to participate in solving it. Any success in such efforts cannot be achieved without the creation of a public awareness and new attitudes of life and environment. This can be done only through properly conceived and a well managed educative process.

The Museum's Role

The museums are in a position to portray the total environment of man and his dependence on it. They can demonstrate the complex inter-relationships among plants, animals and the inorganic components that constitute not only our physical environment but our cultural and technological environment also. The museum exhibitions could broaden and deepen knowledge and emotional experience in the minds of the public. The exhibitions specially designed to focus attention on the environment can be very effective in making man aware of his responsibilities to preserve it.

Nature's Net-work-Ecology

The inter-relationship between all living organisms in the environment can be projected through the exhibits of flora, fauna and geological material presented in a Natural History Museum. The dioramas or the habit group cases depicting nature in all its aspects are aimed to provide an understanding of ecology—nature's delicate net-work in supporting and sustaining life. The ecological factors underlying life in the oceans, deserts, rivers, ponds, forests, etc., are vividly presented to show the variety and diversity of plants and animals that share the earth with the man. Thematic exhibits on various aspects of plant and animal life provide an understanding of their lives and adaptations to the environment. This knowledge is fundamental for any understanding or appreciation of ecological phenomena—a background which would help one to understand the meaning of ecology, of conservation, of man's role in protecting the environment (Pl. 47).

Conservation

Together with an understanding of the rich natural heritage of man presented through the museum, the problems of the survival of the fauna and flora could be brought to his attention and the role he has to play in protecting them, not only for their benefits but for his benefit as well. The wild life is a part of our national wealth (Pl. 63). All possible measures must be adopted to preserve these natural assets which represent a precious heritage. A lot of damage to our wild life has already been done by the trigger—happy men, adventurers and commercial exploiters. What remains now is a dim reminder of the past glory. There are less than a couple of hundreds of lions who struggle for their existence today in the Gir Forest. Asiatic lions were once found in the plains of Rajasthan, Punjab and Sind in fair numbers. The Cheetah is now extinct in India. The Indian Rhinoceros, which once occurred all over the arid and semi-arid regions of India, is now confined to a few numbers in Assam. The tiger too, which was plentiful in the Indian jungle, has now been extremely depleted and mostly confined to the wild life sanctuaries in India. Time is running out fast and action must be taken without any further delay. The educational exhibits on wild life conservation can go a long way in promoting an awareness in the people of the need to protect the wild life. The U.S. National Museum of Natural History, Smithsonian Institution, Washington D.C., presented a special exhibition of 'Endangered Species' in the year 1969, focussing attention on the animals that are on the path of extinction. The American Museum of Natural History, New York, chose a very appropriate theme as a special exhibition "Can Man Survive ?", at the time of the celebrations of their centenary year in 1969, showing the threat that is posed to man by his own ill-directed actions, calling attention to the basic actions on protection of the environment from pollution, destruction and population explosion.

The museum exhibits could also focus attention on the measures undertaken by the governmental agencies in the conservation of wild life, such as the maintenance of the wild life sanctuaries, the Tiger Project, the Wild Life Week celebrations, etc., and highlight the role of the public in making such projects and activities to yield the desired results.

Population Explosion

The museum could illustrate the hazards of over population through pertinent exhibitions. The influence of human population explosion on natural resources and human survival, pollution of highly populated areas, etc., could be graphically represented through illustrations, charts, maps and statistical data. The success of our family welfare programmes largely depends on creating a public awareness about the problem. Action in this respect is an individual responsibility and not a duty of management alone.

Pollution

The benefits of technological development in industry, power generation, transportation, pest control, etc., have resulted in a steady increase of atmospheric pollution in the modern environment. If we have to preserve or recreate an environment, including man, we must develop ways and means to reduce all kinds of pollution. The museum exhibits could focus attention on problems of pollution of the air, land and water, the deleterious effects of pollution on the flora and fauna, and man himself. Radiation, thermal pollution and noise pollution could also be included. The exhibits on pollution could set forth the choices open to man to obtain a clean environment.

Museum Programmes and Activities

The museum should have on-going programmes on environmental education. The films, lectures and guided-tours apart, the museums could arrange activities oriented towards environmental awareness. A unique type of museum which depicts the given human environments of the past in all their natural, cultural and socio-economic aspects is the Open Air Museum. An entire area is preserved with all its architecture, natural surroundings and even the arts and crafts of the historical period it represents. In such museums one can have a wonderful opportunity to compare the human environment as it once was and as it is today. The notable examples of the open air museums are colonial Williamsburg, Virginia, U.S.A., Norsk Folkenmuseum, Oslo; Skansen in Sockholm and the Arnhem Openlucht-museum in the Netherlands. There is a tremendous possibility in India too of having such open air museums.

Apart from the museums, the zoos, the botanical gardens and the wild life sanctuaries could also promote environmental education through their activities.

The Specific Role of Natural History Museum

The fight to save our environment cannot be won by a few professional 'elites' alone. The conservationists, ecologists and other environmental experts can accomplish very little without the popular support. The creation of the public awareness on environmental problems leading to the individual involvement and participation in corrective actions can be achieved only through an efficient system of communication of information. It is here that a Museum of Natural History can play a very powerful and effective role.

An example in this direction has been set by the newly organized National Museum of Natural History in New Delhi, the first phase of which was completed and opened to the public on June 5, 1978, coinciding significantly with the 'World Environment Day'. The exhibits in the museum portray the whole realm of the natural world (Pl. 64), depicting evolution of life, basic biological relationships, ecology, conservation and the role of man in protecting the natural environment. Through the next phases of its development the Museum, committed to the cause of environmental education, hopes to become an active centre in the country (Pl. 65).

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CRAFT DEMONSTRATION AS A MEDIUM OF MUSEUM EDUCATION

M.K. PAL

The craft demonstrations should be considered as one of the important mediums of museum education. A person interested in the study of rural technology, with particular reference to arts and crafts of the country, may learn a lot through the craft demonstrations. The main and subsidiary raw materials used in the manufacture of a craft example are also shown during the craft demonstration, and their use, in the sequence of processes involved, reveals the basic concepts of a material culture of which the craft itself is a component part. Any particular raw material has its specific role in the process of manufacture, and it is very interesting to observe how a particular craft technology is evolved through the manifold use of raw materials as well as through the skilful manipulation of fingers of a traditional craftsman. A careful study of the rural technology, prevalent among the traditional craftsmen of the country, shows that no significant change has taken place in the basic concepts of the traditional technology. This is perhaps due to the fact that the hereditary skill has played an important part in the evolution and gradual development of technology in rural India.

The craft objects are made in varied forms and designs. Every design has got its special significance in view of the fact that every design, in some way or the other, is related to the symbolic representation and revelation of the technological ideas. The craft demonstrations are, therefore, very helpful in the understanding of the basic structure of our age-old traditional culture.

The craft demonstration usually involves a number of operations starting from the preparation of raw materials down to the obtaining of a finished product. In between there are other intermediary processes followed by the craftsmen in order of sequence. At the time of demonstration, designing of the craft specimen also takes place side by side. All the techniques are demonstrated in an atmosphere befitting a workshop where different types of tools and the required raw materials are exhibited in an appropriate manner.

The craft demonstrations are not only educative, but are also helpful in developing technological and artistic interests among the people belonging to the different categories. The demonstration of technical processes may be of great interest to the technohistorians; the designing of the objects may be helpful to the designers, while the processes of painting and colouring of the objects may be useful to the artists and art-lovers working in the field of traditional handicrafts. Through the craft demonstrations, one may also have some idea of the underlying principles of rural technology which are reflected in the creative genius of the Indian craftsman.

The craft demonstration also throws sufficient light on the regional variation in craft technology. The basic form of a potter's wheel may be the same in almost all the places in India, but its size and operational methods may vary from one place to another. Even in the matter of the selection of raw materials for a particular craft, the craftsmen take the liberty of using their own discretion and technical know-how specially keeping in view the environmental and ecological aspects. Sometimes the availability of required raw materials in sufficient quantity also plays a significant role in developing the craft technology of a particular region. For example, the basic techniques followed in the manufacturing of cane and bamboo articles may be the same everywhere but some variations are noticed in the craft centres in the eastern region of the country. This is obviously due to the availability of raw materials in abundance and varied adaptability of the craftsmen concerned.

The craft demonstrations are considered to be the visual expression of traditional technical skills carried down to us through the centuries. A traditional technology with its age-old characteristics is also seen to be in existence only with timed variations. Minor regional deviations are, however, noticeable, but the basic technology remains almost unchanged in the different craft concentration centres of the country. Even in the case of raw materials no significant changes are observed. Only in the design and colour schemes the local variations occur.

The Crafts Museum of the All India Handicrafts Board has been organising the crafts demonstration programmes in its Village Complex during the National Trade Fairs being held at the exhibition ground in New Delhi, under the auspices of the Trade Fair Authority of India. The craft demonstrations are organised with a view to arouse interest among the general masses, artists, art-connoisseurs and craft designers. Even the exporters dealing in handicrafts can contact the craftsmen directly and place order with them according to their choice.

During the Agri-expo'77 and National Small Industrial Fair '78, the craftsmen were invited from the different parts of the country with a view to exhibit their craftsmanship in the different traditional crafts such as pottery, terracotta (Pl.66), basketry, *shola-pith* work, wood carving, bangle making, dolls and toys (Pl. 67), leather puppets, metal casting, iron smelting, embroidery, folk painting(Pl. 68), tribal weaving (Pl.69), conch shell works, clay-modelling, *meenakari* and bamboo works. In course of demonstration, the craftsmen availed themselves of the opportunity to exchange their ideas with other fellow craftsmen demonstrators, and this obviously helped them in acquiring considerable knowledge about the techniques of the crafts being followed in other craft concentration centres of the country. They could also gather knowledge about the different types of raw materials being used by other fellow craftsmen from different states. The craft demonstrations may,therefore, be considered as the vital medium of inter-communication.

The craft demonstrations can be organised through different channels such as the mobile exhibitions, trade fairs, exhibitions in museums and special exhibitions on the occasions of important national festivals, etc. The mobile exhibitions may be useful to the local craftsmen who can acquire advanced knowledge about the crafts in which they have specialised. This may also help in developing their technical skills in their respective crafts. The purpose of the craft demonstrations, proposed to be organised on the occasion of trade fairs, has already been detailed in the preceding paragraph. The special exhibitions proposed to be organised during the national festivals can also attract a number of visitors interested in the craft techniques. In such demonstration programmes the children should be specially invited to observe the technical processes involved in the manufacture of finished craft examples. A child is very fond of a toy or a doll, but he is not aware of its manufacturing process. If he is shown the technical processes during the craft demonstrations, he will be more attracted to the craft of his choice.

The craft demonstrations as a medium of museum education is yet to receive proper attention of the museologists and art historians of the country. The study of technology is an essential key to the understanding of a people's culture. If in man's struggle for survival, resources and techniques are considered to be his greatest assets, the preservation of age-old craft technology and its popularization through the demonstrations should be given prime importance. Keeping in view that the crafts contribute a lot to the sustained development of the country's rural economy and form a prominent element in the cultural unity of the people, the craft demonstration programmes should be organised regularly. As an important medium of museum education, the craft demonstration programmes will not only help in popularising the rich heritage of our culture, but will also give a panoramic view of the various aspects of life of the generations that lived through centuries—a glimpse into the cultural life of the people.

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21

PREPARING CHILDREN FOR MUSEUM VISIT

BANI ROY

The importance of education outside the class room has been recognized all over the world. Museum plays a vital role in this sphere. Experiments have been made by enlightened museum educators in the west in this field, and museum has become a living thing over the years. In India too major museums have set up Education Services in answer to this felt need.

Museum is not merely a store house of attractively displayed antiquities. Each one of the articles so displayed is the product of a segment of a country's cultural heritage, which it strives to reveal in its mute language. The labels, however attractive or elaborate, cannot tell the viewers everything about the object—its true aesthetic merit or its socio-economic context. More often than not they fail to evoke interest in the laymen. The problem gains a larger magnitude in the case of children. In this paper we have made an attempt to examine this issue in so far as our young visitors are concerned. Even we at the museum have realised the true worth of the proverb "Catch them young".

For most schools, a visit to the museum is one of its extra-curricular activity, probably as a part of their sight-seeing tour. Hence the teachers merely herd the children in fifties or hundreds through the museum. The children are excited for being outside the class-room and have no mind to receive any information—truely they are in a picnic mood. Hence they carry back nothing with them except perhaps an impression of the facade of the building. The scene of children being paraded from one gallery to another in a long line, without a single word of explanation, is a common sight. Hardly a few, including teachers, even look at the objects. The teachers are more concerned with the problem of transporting the children back to the school. Their lack of interest in objects displayed in the museum is amazing. I have often talked to the teachers to find out from them why they came to the museum at all, why did they not organize the museum visit with prior appointment. Some of them are openly indifferent while others, possibly for courtesy's sake, promise to do so in future. Indeed a few do approach us later for organized visit. But then they only establish an exception to a rule which sadly seems proven.

It seems clear that an unorganized visit of the kind mentioned above serves no fruitful educational purpose. Even if one object is brought to the pointed attention of the children and explained carefully its visual impact stimulates that section of their brain, which is the seat of superior visual abilities. This fact is hardly understood by the school educators.

An organised visit, on the other hand, has a very definite purpose. The children and the teachers know about the subject in advance. The children, therefore, come mentally prepared to receive information about a particular subject which is the purpose of the museum visit. They are fully conscious that their visit has a definite objective. This itself prepares the ground. They are mentally and intellectually ready to accept and assimilate knowledge according to their level and capacity. It has been noticed that children themselves get considerably engrossed in the objects before them. Their curiosity is aroused and they have a number of queries. Virtually the silent objects start communicating with the juvenile viewers.

I too can recall having visited the museum as a child. The impression that I carried back with me was that of a store house of old things, which were totally irrelevant to my life and the society I lived in. This image persisted till I started to work in the museum. It was only then that it was gradually replaced by one of a repository of ageless knowledge. Having worked with the children I am now fully conscious of the immense potential of the museum as an aid to the system of education.

During the course of my work I have come across numerous teachers who have brought children to the museum both for organized and unorganized visits. With the experience of both, they have unanimously accepted the value of the latter. They realise its value, not only for the useful information it offers in a given topic, but because such visits give the students a vivid historical sense in a general way. This, it has been noticed, improves their grasping power.

The Prince of Wales Museum, Bombay, has been engaged in such activity for almost two decades. It regularly arranges school programmes of organised visits of students from various schools of the city and suburbs. Every year when the schools begin their new session, circulars with detailed programmes are sent out to school principals. Those who are interested in our programmes contact us directly or through their teachers. More often than not they call on us to discuss the scope of the progamme. A plan is then prepared for the children of different age groups and subjects. The topics are so chosen as to supplement the school curriculum, otherwise the progamme will cease to be meaningful for students.

These programmes are of audio-visual nature—mainly slide talks on art history and natural history. We offer twenty such topics, to which new ones are being added every year. After most slide talks children are shown appropriate plaster casts, reproductions of miniatures, stuffed birds, etc., which they can examine closely. In the talk the efforts are made to create an atmosphere of the age relevant to the chosen topic, its social environment and to stimulate children's imagintaion of the past life, its relevance, if any, to their life now. While the slides are shown various aspects of the objects are brought to their notice. Thereafter, they are taken round the gallery pertaining to the talk. Here they are generally left to themselves to find out things of their own interest. As already mentioned, talks are illustrated with slides and with teaching aids. The children, therefore, get fairly involved in the subject even before they are taken to the gallery. By now, they have some idea as how to look at the objects, what is their worth—socially, economically, culturally and aesthetically. Seeing the objects make them happy, involved and responsive. Now, on their own they linger on at a particular object that holds their attention. They learn to scrutinise things from their individual point of view. This often leads to heated arguments among themselves and on their failure to resolve their dispute they come over to us for our verdict. This indeed is most heartening. I must confess that some of their queries baffle us due to their originality of approach.

Many a time we seek the feed back and request the student visitors to let us have the impression of their visit. It would be interesting to glance through a few of these from the children around ten years in age; each of them is accompanied by a beautiful drawing or painting.

Nisha Kamat—Std. VII : We learnt a lot from your lectures and slide shown on sculpture and painting. It also helped us to write an essay in Hindi on *Ādimānava.* This visit has helped us a lot and will make our further study of history easier and interesting.

Sharda—Age 9½ years : I would like to tell you that I enjoyed my visit to the museum. As you know presently we are studying about the Indus Valley and early civilization. Your talk and explanation about the Indus Valley and also having seen the various vessels, tools, pottery, toys, statues, seals used by the people—have painted a picture before my eyes and I thank you very much for the same. I will surely tell all my friends to visit the museum.

Nikolai—Age 9 years : I really enjoyed it. I understood well. I feel without reading about it before coming to the museum I would not have understood it so well. I think you should not show the slides which have naked people—because the boys later say *ha ha.* Only that should be changed otherwise every thing was just marvellous.

B. Marshall—Age 9½ years : Oh, the museum had very exciting and interesting things—we know them better because of the slides we saw which were about things those were dug up from under the ground. This was the most interesting trip I have ever been to.

These are only a few specimens of feed back. They should suffice to see the reaction of the juvenile mind to organised museum visits. They are obviously impressed because they find in these what they have not come across either in their books or through their teachers in the class rooms. Visual impact is indeed profound.

It is encouraging to see the increasing number of such visits from year to year, but what is even more rewarding is the eagerness with which the school children look forward to such visits to the museum. Teachers have often told us that the students on their own suggest such visits whenever they take up a new lesson related to a topic on which the museum could possibly throw some light. The teachers too wish it was possible—alas, their packed syllabus confines them to the class room.

Then requests start pouring in from distant schools asking us to go to them with our slides. We wish it were possible—but we are primarily interested in museum visits, not only in slide lectures. Moreover, the policy of the museum towards its educational programme has been to draw the children away from their conventional surroundings and expose them to original objects, which is possible only by arranging for their visit to the museum.

The schools have their own problems. The biggest problem is the transport. Many teachers are unwilling to take the responsibility of bringing children by public transport. Some schools cannot meet the hire charges of private buses. As far as our museum is concerned, no charges are made for such visits. Further, in good many schools one class may have four or five sections hence so many visits mean so many days gone, particularly for teachers—the reluctance on the part of the school authorities is, therefore, understandable.

From time to time we introduce new things in our life, we adopt ideas and practices which have already been tried out with benefit elsewhere. But the execution of such ideas is not easy. Firstly, we have to break the barrier of reluctance on the part of those through whom these have to be executed. But mere attitudes do not produce results, however correct they may be. Other conditions too have to be favourable—we need correct tools, whether they are the slides and projection equipments, models, pictures or buses for the transportation of children, etc.

The main object of an organised visit to the museum is to stimulate curiosity among the school children. We have to sensitise their minds and imagination. The Prince of Wales Museum can achieve only a fraction of Bombay's need. The city needs many more museums. Every year about ten thousand students avail of the facilities offered by the educational wing of this Museum. We are happy at our growing popularity but to obtain adequate results of audio-visual training methods in the development of the juvenile mind, we must have the cooperation of a large number of individuals as well as institutions.

22

EDUCATION AND CHILDRENS' MUSEUMS IN INDIA

HENA BAJAPAI

1979 has been declared the International Year of the Child and the United Nations with all its thoughtful projects and programmes is inviting everyone to renew their concern for children every where. Preparations on very large scales are going on. The child has been given thurst to the forefront. Throughout the world major attention and emphasis is being laid on child welfare for his total development. The philosophy is that all children are individuals who deserve to be respected and cared for.

In India also multifarious subjects dealing with children benefit programmes have been thrown out to the public at large. The aim behind these programmes is to help people to realize that the child is wholly dependant upon adults and we owe them the best we have to give, that they are our future and are our country's greatest wealth and that developing their potential is to ensure the development of technological and natural resources of the country. The quality of tomorrow's world will depend on the well being, safety and development of today's children. It, therefore, becomes obligatory that we must make every effort to imbibe every adult citizen with a desire to bring knowledge and wholesome happiness to the children of their community. To achieve this goal of wholesome happiness and total growth and development of a child we face an urgent need for a dynamic programme of education. The field of education includes many kinds of work other than the classroom teaching. Education has a very rich and deep meaning and concept for the way of life. Through proper education a child gains a sense of personal identity and develops a competence and better understanding in human relationships. It definitely helps him to develop the power in appreciating the world around him—the natural environment in which he lives, his cultural heritage and its related fields. For all this we just cannot put the responsibility on the schools alone. Total growth and development of the child is the joint responsibility of the parents, the school and the community. The community conscious of its responsibility towards its children, should provide out-of-school agencies and institutions which may help developing the child's skills, aptitudes and personality so that he may ably participate in social and political life of his community. Not only the child's intellect but his appreciation of artistic and aesthetic values and his sense of moral and social values should also be developed.

The primary aim of a voluntary educational programme should be to provide greater educational opportunities for the mental, physical, social and spiritual growth of the young people. These facilities should be designed to help the boys and girls develop so that they may lead useful satisfying lives and be better prepared to accept full share of adult responsibilities. What the child would be as an adult depends, to a great extent, on the experiences he has during the plastic years of early childhood. Planning of the school going children needs special care as they are in the crucial period in their formative years of developmental changes in spectrum of life.

In India the shortage of well trained teachers to take such noble responsibility is a serious problem. The poor quality of teaching is partly due to the overcrowded class rooms and shortage of books and teaching aids and partly due to the inadequate training the teachers themselves receive. The aspect of child psychology and education on vocational training, health instructions and civic consciousness are generally ignored. It is high time, that the steps are taken to train school teachers with improved training facilities. Institutes must be set up to train good teachers not only for primary or secondary schools but also for technical and professional fields.

To make the teaching more pleasant and effective, the present school curricula will have to be revised. Chlid's natural impulses and desires, his individual abilities and interests should be given free expression in order that the education can be natural development of the individual child, rather than a superimposed adult pattern of behaviour without regard for the personal desire or the aptitude of the child. Children acquire their interests from the environment in which they live. Adults should, therefore, try their utmost to help the child to cultivate, to channelise those interests which may prove fruitful. A child should be given full freedom to select and engage the creative and recreative activities of his own choice and aptitude.

It is, therefore, essential to have some place where such facilities may be provided to team up young enquiring minds with the exciting varied field of aroused curiosity and interest. To fulfil such needs educative and recreational centres like the Bal Bhawans, the Children Museums, the Hobby Centres, the Boy's Clubs are necessary in addition to the schools to lead the children into wider areas of learning.

School going childern do crave to belong to some place which they can call their very own after school. The childrens' institutions mentioned above are the answer for the same. The existence of such institutions also safeguards the children from delinquencies and save them from being drifted away to the wrong and undersirable paths. On the staff of such institutions lies a great responsibility for the nation.

Ability to understand the child is the basic qualification of the staff. Each child is different and so is his approach to the sorrounding subjects. Therefore, each should be dealt with as an individual with different abilities, skills and needs. The instructor must accept the child with all his strength and weakness. He should be a friend and a counsellor to the child.

Childrens' Museums should be multi-purpose recreational activity centres for the children with the objectives : (*i*) to help the child develop a spirit of enquiry, making judicious use of his leisure, (*ii*) to prepare children to learn and share responsibility for democratic living, (*iii*) to develop child's personality, and above all (*iv*) to instil the confidence of "I can do it". The confidence that you can do things is one of the very important values installed. Through the various activities of the Museum and its clubs we have seen the wonderful change from a withdrawn shy and self-conscious child to an interested, alert and active one.

Apart from their educational projects, the main exhibition galleries of the Museum should also be given due attention. The first-hand impression a visitor gains is through its galleries which are the show-windows of a museum.

Next comes the question as to what to display ? Before planning one must be very definite for whom the display is meant and what are their needs. It is not enough to teach through the exhibits. One must have a clear understanding of the group, of the community, the museum exists for. This need may differ from place to place or community to community. Therefore, for asuccessful museum display one must be very definite about its audience. Once it is known that why you want them to look at an exhibition, it becomes easier to arrange the exhibits. The more precisely defined the audience : the more accurate can be the aim.

The main object of the display is that it is to be 'seen' without any hinderence or difficulty. It should attract the attention of the viewer on itself so that it may help children respond to it; to concentrate his attention and to have a direct participation. Unless the child is involved into the exhibit, in some way it cannot be successful. In order to get the children involved into the subject matter interest is to be roused into them by appealing to their senses of surprise, curiosity and aesthetics. The display value is strenghthened manifold if the child feels himself a part of it.

However, the best way to lead the child to get a personal interest in a display is to offer something which is moving, something which he can touch, feel and activate. This direct involvement, has the tremendous effect on the stimulus of the child which serge the desire in the child to come back again and to know more. This is really something which a museum personnel wants to achieve through his objects of display.

While planning and designing for a children gallery other than choosing the subject matter very carefully—one must concentrate on architectural details of placements, size, shape, colour, texture and light, etc., so that the display may have the right atmosphere.

Properly organized and well selected words and phrase also add meaning to the display. The write-ups of a children museum must be short with bold letters, clear and simple.

It is rather a wishful thinking to expect to have the much needed separate children museums and other recreational centres in a developing country like India, where most of the children live in conditions of extreme deprivation. Their number increases every year whereas opportunities for education and employment are not increasing in the same proportion.

However, people and government are conscious of the fact and are trying to cope up with this demand. In the last few years social and recreational centres for the children have come up in the shape of Children Museums, Bal Bhawans, Clubs and Libraries. Even the other museums, conscious of the fact, are opening up and providing spaces for the junior sections in their institutions. Though the number of such centres is very meagre in comparison to the vast population yet good begining has been made.

The multi-purpose museums which have opened junior sections are the Prince of Wales Museum, Bombay; the Government Museum, Madras; the Salarjung Museum, Hyderabad, and amongst the Science museums the Birla Industrial and Technology Museum, Calcutta; the Visesvaraiya Museum, Bangalore, etc. All these are doing very good work of a chlidrens' museum but the very atmosphere of a childrens' museum differs from that of an adult museum. The programme of the childrens museum are administered for the children, the activities are centred around them, the exhibits are prepared with them in mind and geared to the standard of the children. In a childrens museum every effort is directed towards the children, their satisfaction and to the stimulation of to their thinking.

The full-fledged childrens' museums which are working at present are : the Bal Bhawan and National Childrens' Museum, New Delhi; and the Childrens' Museum, Amreli in Gujarat. The later is doing real good work with the rural children of the area since quite some time now. Another children museum that has recently come up in Gujarat is Gandhi Smriti Museum, Bhavnagar. The Nehru Bal Bhawans in Calcutta and Andhra Pradesh are also of recent origin which are trying to fulfil their goals.

Lucknow, the capital of Uttar Pradesh, is proud to have the Childrens' Museum with all the advanced facilities working successfully since 1957. It has become one of the best and leading children museums of the country. It offers all the facilities a child requires for his development in various spheres and fulfils a long standing need of the children of the city.

It has fourteen exhibition galleries on various subjects including a Toy Section and a temporary Exhibition Hall. The museum has mostly three dimensional dioramas and working models. With the active cooperation of school groups, it arranges gallery talks, guided tours, special lectures and film shows.

As its extension service the museum runs various clubs for the children and owns a very good Library in order to cultivate reading habits in them. The Library contains more than 25,000 books on children and for the children, covering almost all the subjects useful to them. Open access system in the Library prevails.

After-school informal classes on Painting, Drawing, Clay Modelling, Toy and Doll making and various other handicrafts are also held. The articles made by the children in these workshops are put on show and for sale for the public, thereby inculcating confidence in children. The children have the opportunity to join the evening classes of music and dramatics. To encourage the children in the most fascinating art of drama a separate department of Children Theatre has been declared open on July 14, 1978. Indoor and outdoor games with facilities of training in physical culture are also organised.

The museum is helping the children to develop an appreciation and competence in crafts, arts, music and wholesome leisure time activities. Leisure time values acquired during the early and teen years have a great influence on how the adult spends his recreational hours. The creative sense of leisure and purposeful recreational activities are an indispensable part of living in our world today. These are resources to see and enjoy in our daily life. The Bal Bhawan members are encouraged and trained to be creators and organizers of leisure-time persuits, as it has been seen that the pattern and appreciation of the value of leisure time are formed early in life. The museum performs the function of laying the foundation of the child and leaves the adult museums to build upon it, and to produce well adjusted real good citizens for the future.

The museum people in India are trying their best to serve the nation in their small way but it is felt that still more stress should be laid on the childrens' institutions, specially the museums. Everywhere we find that the children's institutions and workers find a secondary treatment—this demarcation and deference should go—and equal status be given with equal footing with the adult organizations if we want these childrens centres to prosper.

Let us hope the International Year of the Child (1979) will really do something to encourage the best calibre of the country, to come forward and work for the betterment of the children and the society at large. Opening of more children museums is the need of the hour.

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23

THE ROLE OF MATHURA MUSEUM IN COMMUNITY SERVICES

R.C. SHARMA

The Government Museum, Mathura, with the situation on the Delhi-Agra route and more so far its rich collection and fine scholarly tradition, has been a centre of attraction for the visitors and the researchers alike. The institution has the privilege to receive Dr. Grace Morley more than once and also to seek her guidance on the different development schemes. The most fascinating tip which I received during my discussions with her at Mathura and at several conferences organised by the Museums Association of India under her patronage was to develop the museum as a community centre.

While other aspects such as collection, safety, preservation, documentation, presentation, cataloguing and diffusion of knowledge were, no doubt, of great importance, the community service was on the top of all and the other aspects actually rally round this most significant objective. To me it appears that the community service is the aim while other objectives are just the means. The theme convinced me utmost and I longed to implement it specially when some good results were seen during my specialized training in museology in France and other countries, a decade back. My posting at the Mathura Museum on return provided me a good platform to translate this wishful thinking into action.

For some time I tried to acquaint myself with aptitude of the local citizens to possess a good background to peep into the past through their literary and cultural activities. As a result of close contacts with several eminent persons and organization I gradually started exploiting their aptitude and taste to disseminate the message of the Museum and the big role which it plays for the overall betterment of the society. This began with the opening of Museum's doors for holding all literary, educational and cultural functions of the town as there is no auditorium to promote the cultural palatability. The Museum Library was transformed into a mini auditorium and gradually it emerged as a centre of attraction for the elites of the town.

Besides the literary and educational institutions, the clubs also found the Museum as a better venue to hold their various functions. The variety included lectures and symposia on art, history, archaeology, religion, culture, philosophy and literature. Besides the music concerts, dance, drama, debate competitions documentry and film shows were the regular features.

The implementation was a grand success and the Museum was in limelight in newspapers. The casual visitors to the museums were also benefited by these programmes whether they were organized by us or by other institutions. The Museum staff, participated and availed of ample opportunity to give their message on art and culture to the audience. Not only the Museum was humming with multifarious programmes but the people also started realising that the century old institution was advancing towards the noble cause of service to the society. The planning was, of course, reciprocal and the Museum was able to carve out an esteemed place in the social order and people spoke very high of it. A moment came when their appreciation and recognition were put to test. This was the centenary celebrations of the Institution in 1974—a grand function and unique in several ways. It no more remained a Museum affair but the entire Mathura city was emotionally involved. The Museum was just the site of performance while the arrangements were shared by the different institutions and prominent citizens.

On the January 10, 1974, the inaugural day of the centenary celebrations only 3,000 peoples could be admitted to the *pandal* but more than double of this figure was seen in the Museum premises after the speech of the Prime Minister. Not only the galleries and the verandahs were full but the lawns were also packed to the capacity and for some time the Museum staff and the centenary delegate struggled to maintain law and order. We had a sigh of great relief to see that all the objects were intact and at their proper places and nothing untowards had happend. It was probably the first time that such a large number of visitors thronged to witness a museum function.

A spirited competition was marked among official and non-official institutions to render their services for the success of the centenary programmes. Mathura, Lucknow and Delhi stations of the All India Radio broadcasted special talks, features, news items, commentaries and *samachar darshans*. "*Bolti Murtion Ka Mahal*" features by Sri Ram Naresh Pande and relayed from the Mathura Radio Station deserves a special mention. The television units of the Government of India telecasted several newsreels some of which were screened in different picture halls. The U.P. Sangeet Akademy and Bhatkhande College of Hindustani Music gave variety programmes during centenary week. The name and fame of Mathura Museum attracted eminent scholars from India and abroad to participate in a special seminar on the Kushana Art of Mathura. The Post and Telegraphs Department of Government of India issued two special commemorative postage stamps to mark the centenary event. It was a rare occasion when two stamps on an Institution were released simultaneously.

The public co-operation, however, excelled the Government agencies. The Museums Association of India convened the All India Museums Conference at

Mathura to discuss the problems of small museums. It was for the first time that the Mathura Museum had the privilege to host an All India Conference.

This happened mainly due to the intimate relation which this Museum has been able to establish with the all India body. The West German Archaeological Expedition, conducting excavation at Sonkh under the direction of Dr. Harbert Hartel, Director, Indian Art Museum, Berlin, gave a warm luncheon reception to the centenary delegates. While visiting the archaeological site of Sonkh the people of the small town and neighbouring villages extended a hearty welcome to the scholars from India and abroad. It was a unique occasion when the message of museum and archaeology was received by the village folk who had themselves arranged a reception party under the leadership of Professor Sharman Lal Agrawala. The Rotary Club, the Junior Chamber and the Lions Club hosted lunches and dinners in honour of the participants. The Jain Society of Mathura welcomed the delegates at a luncheon party at the Jambu Siddha Kshetra, Chaurasi. Dr. Sarojini Kulshrestha, Principal, K.R. Girls Degree College, lent wonderful co-operation in setting up a folk art exhibition and other decoration work with the help of her staff and students. On the other hand Dr. P.L. Paliwal, Pricipal, R.C.A. Girls Degree College, invited the centenary participants at her Institution in a special function organized by the Management Committtee and the members of the staff. It was also attended by the prominent citizens of the town. Dr. Paliwal prepared a guide note to the places which proved to be of immense help to the delegates who went for excursion of Mathura and its neighbourhood.

The Museum availed of a number of facilities from the Veterinary College through the kind courtesy of the Principal.

There was a flood of special issues of dailies and weeklies focussing the Mathura Museum centenary. Besides the leading daily *Amar Ujala* which published three supplements on January 6, 10 and October 9, *Braj Sushma*, *Vrattanta*, *Jagat Times*, etc., brought out special issues. The *Akash Vani* group of journals gave wide publicity through its English (January 6, 1964), Hindi (January 22, 1974) and Urdu (January 22, 1974) editions giving beautiful pictures of the Museum and its exhibits on front cover and insides.

The most inspiring co-operation was received from the Amar Nath Vidya Ashram under the guidance of Sri A.N. Bajpai, its principal. With the help of his nice colleagues and a batch of efficient and smart students, he excellently handled the herculian task of lodging and boarding of the participants who had all praise for their zeal and enthusiasm.

The Municipal Board, Mathura, paid a befitting tribute by naming an adjacent street as Museum Road. It is a symbol of recognition of the community services of the Mathura Museum. Even after the centenary celebration the Museum continued to hold the same regard among the people. A few citizens have proposed to offer handsome financial assistance for the Museum auditorium. The Junior

Chamber in a special function in September, 1975 admired the role of the Mathura Museum and honoured its Director as the best person of the District. On the initiative of the Museum several clubs undertook the task of cleaning of the monuments in the Braj region. It was again a symbolic representation of their cultural consciousness awakened through the association of Museum.

Right from the primary standard to the university education the Mathura Museum has established a close liasion with the educational institutions. The Museum Director is not only an examiner at different stages upto the doctorate level but he is also a member on several committees.

Thus the Mathura Museum has very successfully planned and implemented the community service scheme with the wide recognition in the local society. But this achievement is not a one man's show. Besides the contribution made by the Museum staff, officers of the U.P. Cultural Affairs Department and Museums Association of India the credit for the success goes to Dr. Grace Morley whose grace has reflected in accelarating the museum movement in our country.

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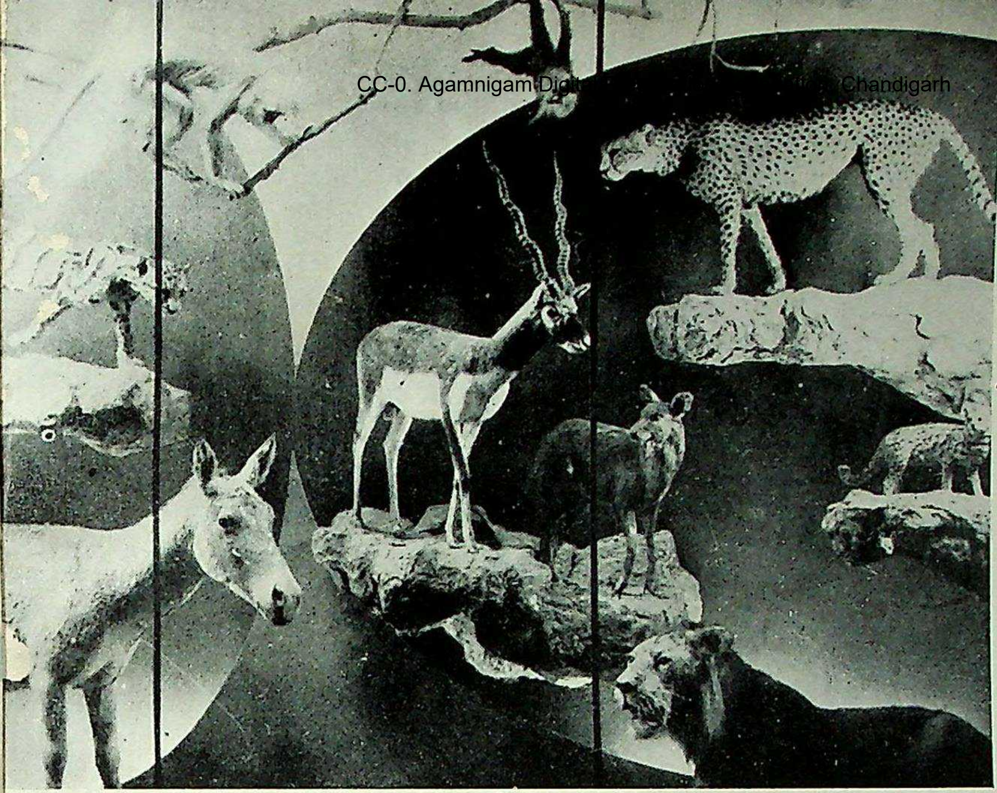

Plate 63 : Diorama showing various animals who are often prey to hunters and need to be preserved to maintain the ecological balance. (*courtesy* : National Museum of Natural History, New Delhi).

Plate 64 : Diorama showing water-birds. Prepared with the combined techniques of painting and use of actual specimens such dioramas are most effective in communicating the message to the masses (*courtesy* : National Museum of Natural History, New Delhi).

Plate 65 : Holding of 'On the spot painting competitions' arouse children's interest and creates better awareness among them (*courtesy* : National Museum of Natural History, New Delhi).

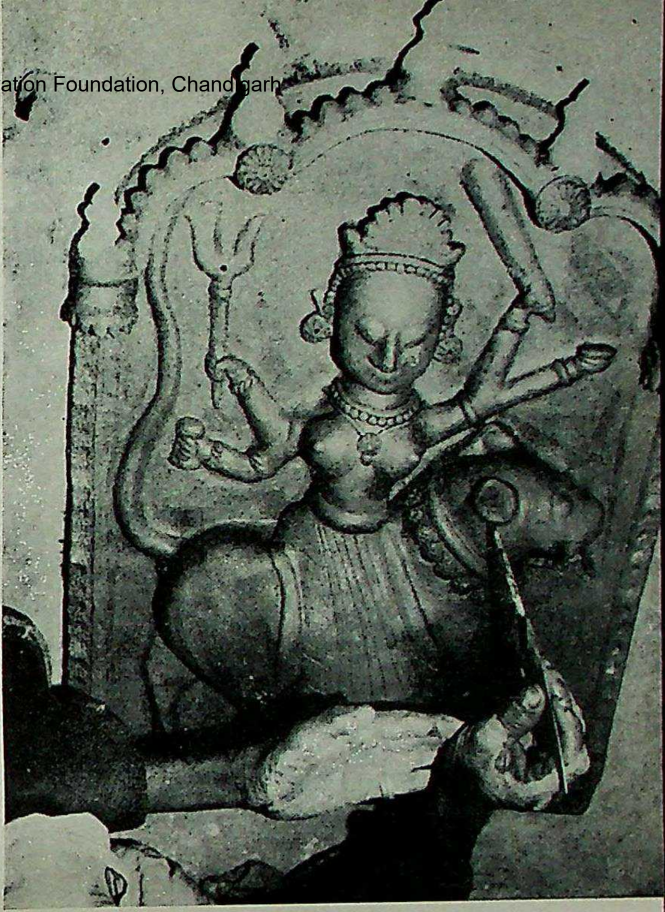

Plate 66 : A craftman from village Modela, District Udaipur, Rajasthan, giving, demonstration on terracotta plaque-making and colouring (*courtesy* : Crafts Museum, New Delhi).

Plate 67 : A craftswoman from Rajasthan givin demonstration on stuffed doll·making Made out of rags and other discarde materials, these dolls were once mad in almost each house (*courtesy* Crafts Museum, New Delhi).

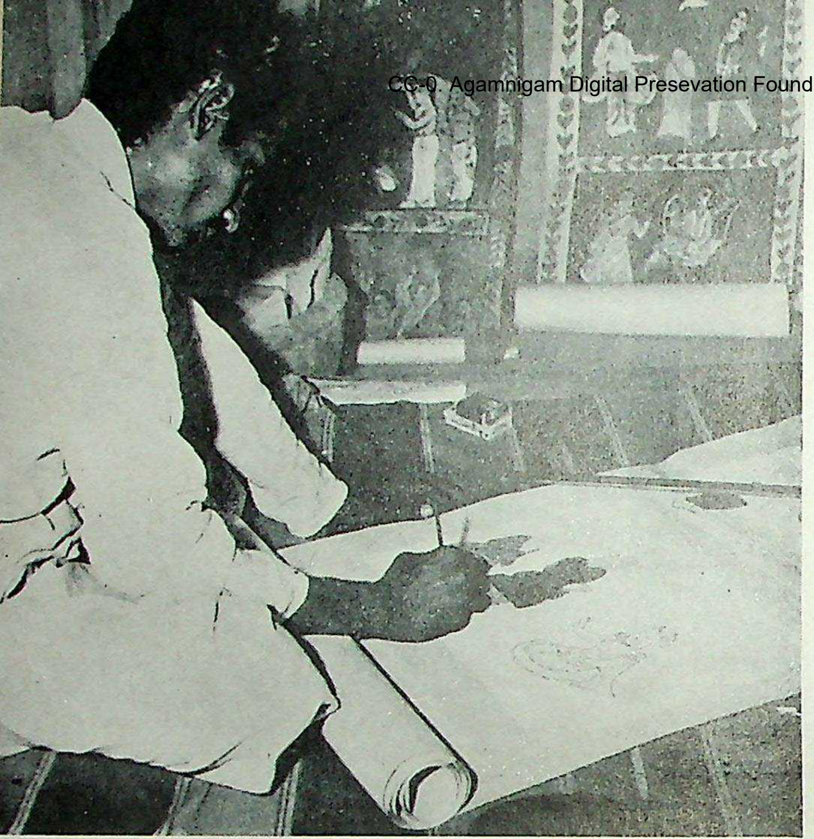

Plate 68 : *Patua* (folk-painter) from district Birbhum, West Bengal giving demonstration on *Pata-chitra* (scrool-painting) making. Such demonstrations are useful to the art-historians as well as to the common visitors and museum curators (*courtesy* : Crafts Museum, New Delhi).

Plate 69 . *Gadaba* tribal woman from Koraput, Orissa giving demonstration on weaving. Such demonstration not only help the museum visitors but give the tribal-people a sense of pride in their own arts and crafts (*courtesy* : Crafts Museum, New Delhi).

PART V

Conservation, Preservation and Care of Objects

24

CONSERVATION OF CULTURAL PROPERTY IN INDIA : A SURVEY

O.P. AGRAWAL

Prologue

Man has created artistic objects since very early times. Many of these artistic creations have already been destroyed by the ravages of nature, human vandalism, fire and wars. Only a very small portion remains with us now. In order that the future generations may have access to the ancient artistic, historical, archaeological and ethnological human works, it is the responsibility of the present generation to provide for the preservation and care of the objects it has inherited from the past. That there is a great need for the preservation of the ancient remains extant with us now is very obvious and does not require any great elaboration. It is very well known and understood that the museums, the libraries, the archives, the historical sites and the monuments are important tools for education and enjoyment. One of the main proclaimed aims of the establishment of museums is preservation of objects in their charge. But the mere collection of art objects by the museums, of ancient manuscripts and books by the libraries, historical documents by archives, etc., does not result in their automatic preservation. There are laws and acts for declaration of a monument as protected. Simply declaring a monument, national or state, as the protected, does not mean its actual preservation.

There is no doubt that the aquisition of the art objects, the manuscripts and the documents, is an important function of a museum, a library or an archives. But possibly of equal importance, if not more, is the proper preservation of the material they already possess. The various natural factors of deterioration like heat, moisture, light, insects and micro-organisms, continue to take the toll of the valuable and irreplaceable historical and cultural property, unless modern scientific techniques of conservation are applied for their protection.

Status of Conservation Facilities

In India, today, we have a large number of museums of different categories.[1] There are arts and archaeology museums, crafts museums, anthropology museums, museums of modern art, industrial and technological museums, natural history museums and multi-purpose museums. Some of these museums are financed by the centre, others by the states, universities or private sources. The holdings of these museums, already vast, are increasing fast. Every year more and more objects are acquired through purchases, through donations, through excavations, or through random collections. Many of the objects in the collections of these museums are kept in the reserve collections. A portion of them is exhibited. All these collections, whether on the exhibition or in the storage, are subjected to deterioration and decay Although there are so many museums and it is well recognized that their collections are unique and irreplaceable, arrangements for the preservation of their holdings, exhibited or stored, are very meagre.

There are large collections of art and archaeological objects with the private owners. The craze for collecting art objects is increasing in India also. Unfortunately, there is practically no arrangement in the country for the preservation of collections which are in the private possession. It is difficult to estimate how many of these objects are damaged and destroyed every year due to the lack of conservation treatment.

Many universities have under them Oriental Research Institute where also is stored valuable artistic, cultural wealth. They are great store houses for the manuscripts, the paintings, the copper plates, the bronze images and so many other types of objects. None of these institutes has any preservation arrangement.

Then there are thousands of temples owning sculptures, bronze images, manuscripts and paintings. Many temples have attached with them what are called *Granth Bhandaras*, which are great repositories of the manuscripts, sculptures and paintings.[2]

Besides, there are many libraries and archieves of the considerable size and scope having valuable collection of books, manuscripts and documents. Although these collections are extremely important, arrangements for their preservation is almost non-existing. Many of these manuscripts and books are gradually deteriorating.

There are a large number of historical sites and monuments in our country. Some of them are protected by the Archaeological Survey of India, while others are under the care of the State Department of Archaeology, wherever they exist. Many others, although important from several points of view, remain neglected. The facilities for the conservation of monuments and buildings are also extremely limited, particularly for those which are not under the Archaeological Survey of India. One can see the beautiful wall paintings gradually withering away due to the neglect and non-availability of conservation treatment.

There are very few institutions in the country having any conservation section at all.[3] In many cases, although a conservation section exists, there is hardly any staff to do the work. In many museums and other institutions, the staff which is engaged for the conservation work is without any training whatsoever. It is supposed that any person holding a master's degree in Chemistry can do the work of conservation. However, it is not realized that the conservation is a specialized science and allowing an untrained and inexperienced person to treat the art objects could be very dangerous. In several instances one can see the costly equipments purchased for the laboratory but never used.

Much more serious than the lack of conservation laboratories is the damage done to the objects due to the absence of properly designed storage areas and due to the improper handling of the objects. It is not realized that for preservation of museum objects good house-keeping, provision of proper storage, cupboards and other facilities are of the greatest importance. Who is to be blamed for this situation ? Very often lack of finances is given as an excuse. But, I think, it is not the question of finances at all. It is the lack of awareness on the part of the curators and the directors, of the dangers which are there for the art objects, and of the lack of training to avert danger that leads to damage to the museum materials.

Besides the lack of conservation facilities and improper storage, there is yet another need and that is of research in the conservation techniques. As far as the present situation is concerned, the capacity for scientific research to solve the various problems of conservation and to evolve new technology is almost non-existing, barring a few exceptions. The Department of Culture, Government of India, has now established the National Research Laboratory for Conservation of Cultural Property at Lucknow (U.P.) for this purpose.

MAJOR PROBLEMS

On the basis of the analysis given above, the main needs of the conservation can be identified as follows :

1. Establishment and development of conservation facilities in the museums, archives, libraries and state archaeology departments.
2. Training of conservators and technicians.
3. Creating consciousness amongst the curators and the directors for understanding the process of deterioration of objects and of their preservation.
4. Scientific research for improvement of conservation methods.
5. Provision of proper storage and safety of objects from the damage caused by improper handling.

Mentioned above are the major problems which, if solved, can meet the important conservation needs of the country. However, in order that the programme be effective it is necessary that action be taken to improve the aspects simultaneously. For example, establishment of conservation laboratories must be accompanied with the training of their personnel. If the conservation sections are established without enough trained persons, it might result in a situation, as it is happening today, in having ill-trained or untrained persons for these institutions.

Similarly, increase in the number of trained personnel must be matched with an increase in the conservation laboratories attached to the various institutions, otherwise the training provided remains unutilized. Both the situations can be very dangerous and unhealthy. In the same way, if persons have been trained and employed in a conservation section, they should be provided with equipments and space to do the work.

DEVELOPMENT OF CONSERVATION LABORATORIES

As mentioned earlier, there are a large number of museums of different categories in India. The collections of these museums are also very large and varied, like stone sculptures, metal objects, pottery, paper manuscripts, palm-leaf manuscripts, textiles, wooden objects, paintings, etc. In some museums, the number of these objects runs into thousands. At present there is a very great shortage of the facilities for conservation of these objects in the country. The necessity of having many more conservation laboratories for museums, etc., can never be over-emphasized.

However, a word of caution is necessary. Although there is a great need for the establishment and development of the conservation laboratories in the various institutions there should not be a sudden spurt in them. An increase in these facilities must be planned in a systematic manner, otherwise it might result in a mushroom growth of the laboratories without the required quality for good work. Besides finances, there is the question of equipments, training and necessary experience under a suitable guide.

We shall now consider the situation as it prevails in the different categories of institutions.

CENTRAL INSTITUTIONS

Most of the institutions—the museums, the archives and the Archaeological Survey of India—financed by the Central Government and working under its control, have conservation laboratories with them.

Museums

The pattern of conservation section for each museum should be evolved keeping in mind the size of its collections and the functions that it is required to perform. The three National Museums, *i.e.*, the National Museum, New Delhi, the Indian Museum, Calcutta, and the Salarjung Museum, Hyderabad, must have sizeable sections for the conservation. The collections of these museums are very large and of a varied nature. Out of these institutions, the Conservation Laboratory of the National Museum, New Delhi, is the only one which can be said to be well organized and developed. It has trained and experienced staff and can handle conservation work of different types of materials. It has done a commendable work in the transfer of the wall paintings from the old buildings to the museum. The work done by this Laboratory at Chamba, Kulu and Sikkim can be cited as examples.

The National Gallery of Modern Art, New Delhi, is having primarily a collection of oil paintings. For restoration work the Gallery has a restorer and a good restoration studio. As it has a large collection of paintings and it is recognized that the restoration of the paintings is a very time-consuming job, there should possibly be more staff to look after the entire collection. It is also necessary that the restorer be assisted by some scientific staff in his work.

The Victoria Memorial, Calcutta, is another important central museum. Although it has a large collection of the paintings, the manuscripts, the documents, and other objects, the staff for the conservation work is very meagre. It is necessary that more staff is added to the unit and the necessary equipments are provided for the work.

The Nehru Memorial Museum and Library, New Delhi, has a large collection of books, paper clippings and miscellaneous types of objects. For conservation work, it has a section but again it is too small to do full justice to the preservation of the entire museum collection.

The All India Handicrafts Board has under it a National Crafts Museum at New Delhi. The Museum has very good collection of different types of objects of arts and crafts. A new building has been constructed for the Museum and the collection is now to be installed there. It is distressing to see that for the preservation of such an important collection the staff is very small in number. Also the space available for the conservation work is very little. One can hope that more space will be provided for it in the new building.

Libraries

Amongst the Central Libraries, the National Library, Calcutta, is probably the only one which has a good preservation unit. The Khuda Baksh Oriental Public Library, Patna and the Raza Library, Rampur, both institutions of national importance, possess rare manuscripts and paintings. The Library of Tibetan Works and Archives, Dharamshala, has been set up with the aim of acquiring and conserving the Tibetan books and manuscripts. Some of the manuscripts in its possession are said to be rare. The T.M.S.S.M. Library, Thanjavur, has a rich collection of over 40,000 manuscripts covering a wide range of subjects, such as fine arts, sculpture, music, etc. Unfortunately, none of these libraries has any worthwhile arrangement for the conservation.

National Archives of India

The National Archives of India, New Delhi, has a large unit for the preservation. Thework is divided into three main channels :

1. Scientific Wing,

2. Machine Lamination, and
3. Hand Lamination.

The Preservation Unit is headed by a Deputy Director who is assisted by a team of scientific officers and other preservation staff. The organizational set up of the Archives' preservation unit is very good. There is also a training programme with the National Archives.

Archaeological Survey of India

The headquarters of the Chemical Branch of the Archaeological Survey of India is located at Dehra Dun. The preservation and cleaning of the monuments and the wall paintings are the responsibilities of this branch. There are a number of site museums also under the Survey. The work of the chemical conservation is carried out through the regional offices and zonal offices. The two regional offices are at Hyderabad and at Dehra Dun.

STATE DEPARTMENTS

Unlike the Central institutions, the position of the conservation facilities in the State museums, departments of archaeology or libraries, is extremely poor. Even where the conservation laboratories exist the staff available for this work consists of hardly one or two persons, almost invariably in very low grades. For these persons there are virtually no avenues for promotion, with the result there is a great deal of frustration amongst the conservation staff. In the first place it is difficult to get qualified persons for these posts; even those who join try to leave or switch off to other disciplines of museum or archaeology.

It is also seen that most of the persons employed in these conservation units are without any training or experience of working under a guide. Even after the formal training, which necessarily has to be of a short duration, it is essential that the conservation work is done under the supervision of skilled persons. Further, in several of the State Departments, the conservation assistants are working but the space given to them for work is quite often very small. It seems as if the necessity of the preservation of collections in the charge of their departments is not understood very clearly by the authorities concerned.

In order that the national cultural heritage is saved from further deterioration, an urgent remedial action is called for. The first urgent requirement is the establishment of the conservation laboratories. However, it may not be possible to create even a small conservation workshop in each of the museums or departments. As a first step, therefore, it would be worthwhile to think of having at least one centralized state level conservation laboratory : there could be one conservation unit for museum objects and another for the Department of Archaeology under whose charge are the monuments, the wall paintings, etc. In many of the States there are Departments for Archaeology and Museums working under one

Directorate. In such states there should be no difficulty in having one State Conservation Laboratory which could look after the needs of the museums as well as the monuments. However, there will have to be a separate section for the structural and architectural conservation of the monuments.

DEPARTMENTS ATTACHED TO UNIVERSITIES

There are several universities having museums attached to them. Some are big like the Bharat Kala Bhavan, Varanasi, and the Asutosh Museum, Calcutta, and others are rather small like the Archaeology Museum of the University of Baroda. Some universities have with them the Oriental Research Institute as at Baroda, Trivandrum and Madras. Some of the university libraries also have excellent collections of manuscripts and paintings like the Maulana Azad Library of the Aligarh Muslim University.

Several universities have now departments of Ancient Indian History and Archaeology. Many of these departments conduct excavations and also have museums attached to them. But there are no arrangements with many departments for the conservation of the material excavated. The excavated objects, because of their long burial under the soil and consequent corrosion, are much more susceptible to decay than those which have remained outside.

OTHER INSTITUTIONS

There are many other museums and libraries in the country which are administered by the Municipal Corporations or are under the private ownership. The Prince of Wales Museum of Western India, Bombay, a multi-purpose museum of national importance and the Allahabad Museum, Allahabad, are noteworthy. Both of them have very large collections of varied type. The Prince of Wales Museum has a good collection of European oil paintings. It has with it a Restoration Studio equipped with the basic facilities. For restoration work, it has one Curator who was trained in the United Kingdom in the restoration of oil paintings. For conservation of objects of other types, however, there is very little arrangement. This aspect should also be developed.

None of the private owned museums in India has a conservation laboratory. Their collections remain uncared for and unattended to.

Then there is a good number of private collectors who also own very valuable art objects, like the manuscripts, the textiles, the paintings, the bronzes, the sculptures, etc. Their collections also need conservation treatment but there are no facilities with them.

ESTABLISHMENT OF CONSERVATION LABORATORIES

It will be seen from the above account that the facilities for conservation in the institutions other than those under the Central Government are very meagre. It is necessary, therefore, that more conservation laboratories are established in the country. The Department of Culture of the Government of India has established the National Laboratory for Conservation of Cultural Property at Lucknow and one of its aims is to provide the technical assistance to the museums, the departments of archaeology, the libraries, etc. This Laboratory, as far as possible, is taking up work from the State Museums and the State Departments. Sometimes, if the objects are important, the Laboratory also undertakes work for private collectors. However, the resources of even this Laboratory are limited and as such it is largely for the State Governments, universities, or museums themselves to try to create conservation units in their own areas. As mentioned earlier, there ought to be at least one State level Conservation Laboratory in each of the State, to look after the needs of the conservation of the cultural property. The National Laboratory has been trying to help in this task by examining the collections and by framing reports for the establishment and development of conservation units. However, it is imperative that these efforts are intensified further.

TRAINING IN CONSERVATION

The need for training of conservation specialists is very obvious. At present the number of trained and experienced conservators is very small in the country. It is observed that in many institutions, training in conservation techniques is not considered a pre-requisite for employment. Somehow, it is thought that a fresh M.S.c or B.Sc. in Chemistry will be able to do the work of conservation. It is true that for conservation work the knowledge of chemistry and analysis of materials is helpful but that is not all. Much more important is the actual practical technique of conservation and acquiring of technical skill for this work. Training in the conservation technology is, therefore, absolutely essential for anyone who has to do the conservation work. In a large institution where there are a number of experienced and trained conservators, a fresh entrant, although not formally trained, learns as he works under the supervision as an apprentice. But that is not the case with the small units where one or two persons work all alone.

In order to meet the requirement of training, I think, there ought to be three major types of programmes :

(*i*) Long-term conservation programmes for professional conservators.
(*ii*) Refresher courses for those who are already trained.
(*iii*) Apprenticeship of short duration.

1. Long-term Programmes for Professional Conservators

In today's context, the conservation is a multi-disciplinary subject. Besides, the materials of which the cultural objects are made are of varying nature, for example, stones, metals, ceramics, wood, paper, palm-leaf, ivory, etc. In establishing a training programme, the first question always asked is the scope of training. It is not possible for one single person to master the conservation techniques of all types of materials, if by conservation we mean the full treatment not only to remove the harmful causes of deterioration but also to make the objects presentable. It is, therefore, desirable to have a flexible approach in any conservation training programme, as far as, India is concerned. After a couple of months of basic common knowledge, the students could be channelised to one or two major fields of activity.

Another problem is that of the duration of the course. In various parts of the world the courses run from two months to three years' duration[4]. It is difficult to arrive at any agreed formula in this respect because ultimately it will depend upon what is included in the curriculum. I believe that much more can be given within a well planned and well organized six month's course than in a course which may be of a longer duration but is not planned effectively. The best solution may be to have an initial six months period followed by internships of varying duration according to individual needs.

The conservation being a technical subject, the importance of practical work can never be over emphasized. It is not enough that the course participants simply observe what is being done in a laboratory. It is necessary that they do the practical work themselves. The first attempts will necessarily be crude but under the guidance of competent teachers they can acquire the required skill.

(ii) Refresher Courses

The Conservation science is advancing very rapidly; new materials are being found and new techniques are being evolved. It is essential, therefore, that a person who has already been trained or who has the experience of conservation work should get the opportunity to return to the training institute for a short period at intervals. The refresher courses of a week or 10 days duration would be extremely useful for this purpose. Such courses will provide the means for exchange of information and ideas.

(iii) Short-term Training

Those who are already trained and are working in the various laboratories may still need to get the proficiency in a particular field, for example, in the use of a special type of scientific equipment. To meet this need informal courses of short durations will also be necessary.

(iv) Seminars and Conferences

In order to be able to exchange ideas and to know what is being done at the various centres, the seminars in conservation techniques are extremely useful. In this context the annual seminar held by the Indian Association for The Study of Conservation of Cultural Property is of special significance.

CREATION OF AWARENESS FOR PRESERVATION

As the educational role of museums is being duly recognized, and they are being used more and more, consequently the collections are increasingly exposed to light, etc., thus the dangers to the objects have enhanced manifold.[5] It is our duty to evolve techniques for the protection of the collections against such dangers. It goes without saying that the final responsibility for the preservation and the care of the cultural objects rests with the directors, the curators, the librarians, the archivists, the archaeologists and the heads of respective institutions. It is these custodians of art objects who have to keep the collections in their charge in safety. In order that they are fully conscious of the various aspects of conservation treatment of the objects, there is a need for their continuing 'education' regarding the decay of materials. Besides, the curators must know the type of deterioration that can take place in an object and how to prevent it. It is necessary for them to understand the basic precautions that must be taken to protect the objects from humidity, light, insects and accidents. They must also be aware of the various conservation techniques so that they know what can be done by the conservation department. It should be possible for a curator to recognize the defect in an object when he sees it so that it can be referred to the conservation laboratory in time.

In order that this awareness can be imparted to the curators and the directors, it would be advisable to have periodic seminars designed for basic training in preservation (not in the conservation techniques which is a specialized subject).

Furthermore, small brochures and publications on 'care of objects' would also be helpful.

SCIENTIFIC RESEARCH

The conservation is a technical subject and, therefore, there is a need for continuous research for improving the available conservation techniques. This scientific research should not be merely the analysis of the materials but a search for better methods of conservation. It means that the scientist should determine the causes of deterioration, the processes involved, and then try to find out new technologies of conservation not available at present. There are several types of museum objects, particularly Indian and Asian, on which very little work has been done so far. This type of long-term research programme should not be confused with the scientific analysis needed for day-to-day conservation work.

Also needed for conservation are services for analysis of materials. The field conservator must know the type of material he has to deal with and the best way to treat it. As far as possible, this type of service, to carry out examination and analysis of materials received for treatment, should be available with all the conservation laboratories. However, if that be not possible, the National Laboratory should be able to assist.

Another need is that of the quality control of materials to be used for conservation purpose. Before a new material is utilised for conservation of objects, it is necessary to test such a material and to ascertain that it is not going to be harmful to the objects. A laboratory doing quality control work has to have equipments of considerable sophistication. This service can be imparted only by the Central Laboratory because the advanced equipments will be beyond the reach of the common laboratories. Not only that the equipment is costly but also the staff required to use it will have to be trained for this task.

STORAGE

A survey of the storage facilities in Indian museums will reveal that the importance of the proper storage of the materials is not at all understood by our curators. It must be realised that the preservation of the objects depends not only on the treatment they receive but, more so on how they are handled, exhibited and stored. The exhibitions have received at least some attention in museums but proper storage of collections is almost invariably neglected even in the larger museums. The objects of various types, even, organic and fragile ones, are often stored one over the other, abrading each other, and thus getting damaged. The textiles are stored mostly in steel cupboards, folded and often without any insecticide. The paintings are dumped one over the other without any proper rack system.

Besides proper storage, attention should also be paid to the care in the handling of the objects. The manner in which the objects are transported from one place to another has an important bearing on their safety.

The storage of the museum collections is often a question of finances as well as of proper designs being available to the museum authorities. While designing storage spaces certain basic factors for conservation, besides the ease of retrieval of the objects and their study, will also have to be kept in mind. The manual on "Care and Preservation of Museum Objects,"[6] published by the National Research Laboratory for Conservation, Lucknow and being translated into several Asian languages, at the instance of the International Council of Museums, tries to tackle this problem to a certain extent. However, the most important consideration is a proper awareness on the part of the directors and the curators. All the museums should take steps to design and plan proper storage facilities for their collection otherwise no amount of conservation treatment is going to be of any help.

ORGANIZATION OF CONSERVATION SECTIONS

Very often it is thought that for the conservation of art objects some very elaborate equipments are required. There is no doubt that the conservation work is a result of the blending of scientific principles and technical skill of hands. The conservator needs to understand the scientific explanation of deterioration, its processes and the chemistry behind it; he also needs to know the theory of scientific aids to conservation. But at the same time, of equal importance is the need for him to have an aptitude for manual workmanship. For practical conservation work, very simple, often inexpensive, equipment is needed. What is of real value is the conservation expertise and the technical skill which must get due recognition in our system.

It is for the above reasons, I think, that the high scientific academic qualifications should not be insisted upon for the staff meant for practical conservation. High scientific qualifications are needed for research in conservation methods. For practical conservation, insistence should be upon aptitude, training and skill.

ROLE OF NATIONAL RESEARCH LABORATORY FOR CONSERVATION

The National Research Laboratory for Conservation of Cultural Property, Lucknow, has been established by the Department of Culture of the Government of India as an institution for research, training and advice in the field of conservation. As the facilities for the conservation develop in the country, more and more problems of suitable conservation techniques will be faced and constant research to find out better methods of conservation for various types of materials will be required. The various conservation laboratories in the country, be they in the museums, in the libraries, in the archives or in the departments of archaeology, can look for assistance from the National Laboratory. It can act as a binding force of efforts at all levels. In case of difficult problems various conservation institutions can seek its help for scientific examination of the materials and for the conservation.

Besides its scientific and conservation facilities, the National Laboratory is also trying to establish a Regional Conservation Documentation Centre. The conservation of cultural property is not one single subject. It takes help from the various disciplines like chemistry, physics, botany, geology, metallurgy, etc., on the one hand and different types of materials like stone, metal, ceramics, paper, wood, textiles on the other. Also to be studied are the environment factors—humidity, heat, pollution, light, etc. The number of publications, books and articles on all these aspects, being published in the world, is enormous. The conservation literature is growing all the time but in our country not even a small portion of this vast knowledge, which is published every day, is available. In order that the most important books and articles on conservation are available in the country, at least in one central place, the National Laboratory is developing a Central Conservation Reference Centre wherein will be kept the copies of the articles published throughout the world. The International Centre for Conservation, Rome, is collaborating with the Laboratory in this respect.

CONCLUSION

It will be seen from the above analysis that the task of the conservation of the cultural property in India is tremendous. There are many problems like the lack of conservation facilities, of training, of consciousness for preservation and so on. The recognition of these problems and a concerted effort to solve them is the need of the day. There is a need to have a unified plan of action. If that is done, there is no reason why the facilities of the conservation are not improved. If it is realized that every day a part of our valuable cultural heritages is being destroyed, not by theft or by smuggling alone but by the causes which can be easily averted, no effort will seem too great.

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SALVAGING MONUMENTS AT NAGARJUNAKONDA

H. SARKAR

At no time in the history of mankind the conflict between the past and the present assumed such proportions as it is today. Before today's pressing requirements of water and power, needed for an ever-growing population and urbanization, yesterday's survival is often considered as of lesser significance. Fortunately, whatever may be the reason, none can ignore totally the need for the preservation of a nation's cultural heritage; consequently, everyone is eager to strike a balance between the two imperatives. Yet in this formula of compromise, the present dictates its terms from a position of strength and the past has to sacrifice everything save its total extinction. Thus, in the present circumstances, the conservation of the cultural property has taken a new dimension; indeed, the idea of reconstruction or transplantation of monuments is born out of this new awareness.

Somehow I am not happy with the use of the expression "reconstruction" or "transplantation". Either of these terms is generally employed to denote the work of salvaging of monuments at Nagarjunakonda. The reconstruction is recreating of the vanished building or their original site, its physical form being determined by the archaeological, archival and literary evidence. Its application is more common in the field of the museums than in the structural conservation. The term "transplantation" is used more often for replanting of the trees at a different place or for transfer of living tissue in another part of the human body. Thus the transplantation, in the strict sense of the term, is mainly for the living organism, and it does not connote removal piece by piece. However, it has now been included into the vocabulary of the conservation principles as well, for in Europe the living churches are removed in its entirety from one place to another. In Czechoslovakia, to cite an instance, an old Church, enclosed in a transporter of steel girders with 53 four-wheeled trolleys, was put on rails for shifting elsewhere. But this was not the case with Nubia or Nagarjunakonda. Then can this specific term be used for such activities ? Before reverting to this point let us have an idea of the work that we accomplished some two decades back at Nagarjunakonda in India and is still being executed in the Arab Republic of Egypt.

When it was decided to build a new dam upstream the Nile, the Aswan High Dam, creating a vast reservoir to the south of the first Aswan Lake in which Philae stood, the international community rallied to rescue a score of monuments in Nubia including the twin temples of Abu Simbel, carved out of the living rock.

In the beginning several sophisticated measures were suggested for the protection of the monuments from the submergence. Someone came forward with the idea of hoisting the entire area with a number of hydraulic jacks so that the monuments are lifted above the water level. Eventually the conservation method of transferring the monuments bit by bit to another place, as was done at Nagarjunakonda, was adopted. The rock-cut temples, hewn out of live rock, were sawed in blocks which were reassembled at another site. Epoxy resin is reported to have been used as the cementing material between the blocks. Moreover, a liquid mortar was applied for making innumerable joints inconspicuous.

This salvage-operation of the temples of Philae, which were already under water for about half a century after the construction of the first Aswan Dam, was planned in the second and the final phase. This work will be completed in 1980. "For Philae, sacred to Isis who was for centuries linked with the idea of resurrection, is itself being resurrected. Most of Philae's monuments being constructed of relatively small sandstone blocks dismantling them did not entail the large-scale surgery which had been required by the hewn rock of Abu Simbel."[1]

The island of Philae is now surrounded by a coffer dam: two rows of interlocking sheet steel piles have been driven into the river bed to form a metal girdle. Powerful pumps are set in operation for dewatering and the monuments are now being transferred to the island of Ajilkia, 300 metres downstream. In the planning stage there were two main alternatives : to lower the water-table round the island of Philae or to dismantle the temples and reassemble them on a new site having similar physical conditions. Agilkia's shape, general dimensions and physical features answered several of the problems besetting the team of experts.

Though Nubia or Philae has attracted global attention because of the magnitude of the work involved and the participation of the international community under the aegis of the Unesco, one of the earliest such experiments took place at Nagarjunakonda, a valley now submerged under water, consequent on the construction of the Nagarjunagar Dam on the river Krishna in Andhra Pradesh, South-eastern India. Almost a similar situation has again arisen because of the construction of the dam at Sriśailam on the same river. It will not be out of place to give in brief the history of this operation carried out successfully by the Archaeological Survey of India. The rich archaeological wealth of Nagarjunakonda was discovered in 1926 and a large-scale excavation was taken up between 1927 and 1931. It was again excavated in 1938. However, these operations had by no means exhausted the potentiality of the site. When the plan to construct the Nagarjunagar Dam, earlier known as the Nandikonda Project, was finalized, there was a demand from the public to protect or preserve the cultural wealth of the valley. A special project known as the Nagarjunakonda Excavations Project was, therefore, formed in August, 1954 to cope up with this extraordinary situation.

Nagarjunakonda was the ancient Vijayapuri which, as the capital of the Ikshvakus, came to limelight in the third century A.D. But the cultural vestiges here included the remains of the Early Stone Age, Middle Stone Age, Late Stone Age, Neolithic and Megalith cultures. It was certainly not easy to lay bare the entire city, with its citadel, residential houses, Brahmanical temples, Buddhist establishments, bathing ghats, various public buildings like the open-air theatre, also called amphitheatre (Pl. 70), public baths, tanks, canals, way-side pillared halls and so on. The settlements here followed a linear pattern; the houses were constructed along the broad roads intercepted by the cross-roads and by-lanes. None the less, we succeeded in excavating within a period of six years the entire length and breadth of the valley exposing more than one hundred and twenty-five sites.[2]

Though the need for water for irrigation in the region provided no opportunity to avert the archaeological tragedy, the event gave birth to a new approach to combating the total destruction of the cultural heritage by transferring the ruins of the monuments to a place of safety. In this attempt to recapture the essence of the architectural tradition a total number of nine monuments, some of them of gigantic proportions, were rebuilt in their original form, with the original material. Fourteen large-scale replicas of the excavated ruins are displayed in the open-air on the hill-top. These are in cement although bricks, made to scale, were prepared in special kiln; limestone pillars, reduced to proper scale, were also used. More than one hundred small-scale plastercast models are arranged around the model of the valley (scale 1 cm.=906 m.) showing the location of each site. These are housed in the Archaeological Museum, Nagarjunakonda,[3] the first island museum of India.* This is similar to what is called "reproduction"—one of the approved methods of conservation.

The transferred monuments are distributed into two clusters: seven monuments on the Nagarjunakonda hill, now transformed into an island, and two more groups on the east bank of the reservoir. The cluster on the hill-top comprises the bathing ghat (Site 34), apsidal shrine (Site 43), *mahāstupa* (Site 1), stepped tank supposedly for *aśvamedha* sacrifice (Site 93) and *stupa* with *svāstika* inset. On the east bank of the reservoir are located the amphitheatre and the so-called Hārītī temple (Site 17) and monasteries (Sites 3 and 32 A) (see Pls. 71-73).

All these buildings were made of burnt brick of the size of 20½″ × 8″ × 3½″. The flooring was of the Cuddapah slabs which had been used for encasing or veneering. For instance, the bathing ghat was built of brick and was veneered with Cuddapah slabs using the lime-mortar. The limestone columns, invariably carved and with mortice-hole on top, were used, specially for the construction of the pillared halls. A Cuddapah stone generally served as the bottom-slab for the columns to rest. The part which was to remain underground had been left undressed though sometimes inscribed with mason's name or mark. So far as the roofing was concerned, hipped or vaulted roofs of tiles had been in vogue, though there are reasons to believe that some of the buildings and the pillared halls had flat-roofs of Cuddapah slabs. It may be stated here that the residential houses of common men were made of random rubbles which could be collected in any quantity there. Even the limestone and Cuddapah slabs could be obtained very easily from the nearby quarries.

Besides the circular *stupa*, generally wheel-shaped on plan, the buildings had been built on oblong, square, apsidal and circular externally, square internally. In apsidal shrines, the superstructure was invariably barrel-vaulted roof, the gap between the two walls being spanned by corbelling (*kadali-karana* of the *Vāstu-śātras*).

The mud-mortar, perhaps mixed with gypsum, had been used widely in brick-construction. For flooring with Cuddapah slabs, lime was used, undressed lower part of the slab serving as teeth for holding the motar. Wherever a structure was to come in contact with water, lime-mortar had been used. Such structures included drains, oblong or square wells, tanks, public baths and the bathing ghat. The interior of the walls are also plastered with lime. Wherever the sculptured slabs were affixed to brick-surface of the drum or dome of the *stupa*, lime-mortar had been employed; in such cases brick-surface was made rough for providing the teeth. The bricks were arranged longitudinally, thereby indicating the absence of English bond or use of header and stretcher.

Every attempt was made to follow the original constructional features in the reconstituted monuments. As complete recording of such reassembled buildings is essential, plans, sections, elevations, besides photographing the monuments with numberings on the individual components, were completed before the commencement of the dismantling work. Then the different components were transferred to the new site for reassemblage. As far as possible, same bricks, stone slabs and limestone columns were used in the reassembled monuments. Whenever there were breakages, these had to be replaced by the bricks and the slabs obtained from other excavated sites of the same period. Even then we had to replace some Cuddapah slabs, specially of the bathing ghat, by new ones.

For brick-mortar cement in 1 : 5 ratio was used while in many instances, the rubble masonry formed the core. Instead of lime-mortar, of the original building, lime-cement mortar in 1 : 1 : 5 ratio was found suitable. In the later part of this operation cement-*surkhi* mortar in 1 : 12, which seemed nearer to the mud-mortar of original structures, was used. Admittedly, these were improvisation to save time and expenditure.

In retrospect, I am personally of the view that it could have been avoided. But our outlook about a quarter century back was not as scientific as it is today.

Thanks to the Venice Charter, which was first drafted in 1964, the principles of conservation are now fairly standardized. There are other documents published by the UNESCO or the ICMOs providing guidelines for the scientific method of conservation. In future if such problems confront us again we should not deviate from the standard norms of the conservation; we must reassemble the building in the same material from the core to the outer facings using, as far practicable, the same mortar. Added to it, we should also see that the same environment, as that of the original building, is recreated at the new site. Needless to say, our earlier idea of just giving an old appearance to the reassembled or reconstituted monuments needs modification and in every such operation the aim should be to preserve the same features that have come down to us through the ages.

Now the question arises: is this work be termed as "reconstruction" work or the "transplantation" work ? That both the terms are not suitable in this context is quite evident, for it is neither the recreation of the vanished buildings nor a wholesale transfer of the entire structure. What we have done is just salvaging (to save from danger of loss or destruction) which in the present case is in between "anastylosis" (or reassembling of existing but dismembered parts) and "reconstitution" (reassembly of buildings piece by piece). It is, therefore, felt that in the absence of the suitable terminology "salvaging" will be a better term to denote what we did at Nagarjunakonda than the terms like "transplantation", "reconstruction" or even "reconstitution".

[* For a detailed account of the Archaeological Museum, Nagarjunakonda please see Sri K.R. Vijayaraghavan's article : "The Island Museum of India" and the photographs accompanying it. *Editor.*]

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26

HANDLING OF MUSEUM OBJECTS

A.S. BISHT

Introduction

The museums and the art galleries today are neither the dumping houses for the objects of the past nor the curio stores. The museology now is a systematic study involving many disciplines on the scientific lines. The first discipline is the collection followed closely by the preservation which is the next essential discipline in the line. Very often it is felt that preservation of the art objects is the job of a chemist or conservator alone. It may be true in those cases where the art objects have been received in a collection in such a deteriorated condition that these can not be stored or displayed properly in the galleries without their prior chemical conservation treatment. This, of course, would be an extreme case as the large number of objects are generally in fairly good condition needing very little or at times no treatment at all. In the former case it is the question of curing the objects from the past deterioration but in the latter case what is needed can be called preventive preservation. Prevention is always better than cure and in this respect art objects are no exception. Secondly, even if a treatment to cure an object from the past decay has been done, the objects would need continuous preventive treatment unless the objects are kept in the controlled environmental conditions to protect them from future deteriorating agencies. The controlled environmental conditions also need proper follow up measures to check the efficiency of the machines as well as of the persons who operate them. It can, therefore, be said that even if we have the controlled environment for the objects, it is not the end of the story but a beginning only. Their ultimate survival would depend not only on the chemical conservation given to them but on the care these objects would get from their custodians in future.

Problem in Hand

In India we have over four hundred museums, art galleries and other similar institutions but only a little over fifty institutions have conservation facilities of their own. These conservation facilities are also very often inadequate and lack in the trained men, the equipments and the financial resources at their disposal. The solution of the preservation problems, therefore, does not lie only in the creation of more and more laboratories but also with the training of museologists in the preventive type of preservation so that we are ready to cope with the various problems relating to the preservation of art objects in general in our museums or art galleries. The persons involved are the curators or custodians of these institutions. Most of these people are already aware of the problems in general but what is needed probably is the systematic working of the various procedures. The proper handling of the art objects can go a long way in preserving the objects of art which comprises the following steps and can be easily achieved because there would be no museum without a curator though there may or may not be a chemist in that institution.

1. Periodic physical inspection of objects in their charge not only from the security point of view but from preservation point of view also.
2. Adequate storage arrangements for the objects already in the collection and not to acquire more unless there are sufficient arrangements for the storage of the material already existing.
3. Control of the environmental conditions as far as possible, especially the temperature and the relative humidity.
4. Proper lighting arrangements to avoid decay due to the photo-chemical action of light.
5. Proper care required to deter the accumulation of dust, etc., on the objects and the use of proper methods of handling.
6. Periodic preventive fumigation and sterilization to combat the insect and micro-organism problem.
7. Contact with a chemist or conservator for overall preservation of objects in their charge.

PRACTICAL SOLUTIONS

(a) Periodic Inspections

Very often if the objects while in storage are not examined periodically, it may give rise to complications. At times it is too late in case of an insect activity or fungus problem. Hot, humid and stagnant surroundings promote insect activity and other micro-organisms. Moreover, one does not know what is happening inside a storage unless it is opened and the objects are checked periodically. Sometimes rodents like rats, etc., get entry somehow and are trapped inside the storage cases. In panic these may damage the valuables stored inside. The moisture, if it somehow gets inside the storage cases, or the excreta and urine of rodents, would produce stains beyond restoration and would also promote biological growths resulting into irrepairable damage. In fact barring accidents, the objects should remain at least in the same condition in which these were received in the collection, if not better.

(b) Adequate Storage

Proper storage should be planned before a collection is acquired. The deteriorated objects should be separated material-wise from those in good condition. The objects of one type should be stored side by side at one place and not one upon the other. The aim should be to provide proper storage rather than their dumping together on the floor. This can be done only when we have an adequate storage space. The miniatures and illustrated manuscript leaves should be kept in between the mounts. Large size paintings on wood should be kept vertical in specially made storage-cases with sliding arrangement. The scrolls on cloth or paper should be kept on rollers with tissue paper in between (Pls. 74-75). The wooden objects encased in poly thene bags can be kept hung on a wire mesh partition walls. The manuscripts in folios should be stored, wrapped in good quality paper and cloth, with covers of board or wood on both sides wherever there is no binding. The manuscripts bound as volumes, wherever necessary, also help in their preservation in the long run. The metallic objects should be stored side by side in the wooden trays and their dumping should be avoided to stop physical abrasion. Suitable padding under the objects or in the sides would minimize abrasions. The coins should be stored in especially made trays with circular cavaties wrapped with tissue paper and should be kept over paddings of foam. The objects of fur and hair should also be kept in polythene bags and should be hung on partition walls made of wire mesh. The clay objects should also be kept wrapped in tissue paper and padded with foam with sufficient space all around to avoid physical damage due to abrasion. The stone objects should not be piled one over the other for want of space as these are also liable to be damaged due to abrasion*.

(c) Control of Relative Humidity

The relative humidity should range between 45% to 60% and the temperature between 20°C to 25°C. The relative humidity and temperature in a museum or art gallery should be measured through Thermohygrographs so that the data is available for the whole year. Once this data is available, the next step is to know when to humidify or when to dehumidify. When the relative humidity is lower than 40%, we need humidification and when the relative humidity is above 60% we need dehumidification. Humidification and dehumidification is best achieved by what we call the air-conditioning for round-the-clock operation without fail. Since this is not within the reach of every institution, there are other methods also. The small humidifier machines or air-coolers can be used to humidify the air in dry season. The *khas khas* curtains or paddings on the windows and doors, kept wet, can also help in humidifying the environment. Similarly, materials like silica gel or quick lime *i.e.*, unslaked lime can be used skilfully to reduce the relative humidity in a storage-case or showcase. It is always important to know what to do and when.

(d) Lighting

It is the ultra-violet portion of the light that is damaging to the art objects and is responsible for the photo chemical action of light on the art objects. The sunlight, direct or indirect, is rich in these radiations. The best light to use in a museum are the incandescent lamps from conservation point of view as these do not have much ultra-violet radiations in them. Their only disadvantage is that these may give rise to high temperatures which would give rise to further problems, if enough distance is not maintained in between the object and the light source. Therefore, the best method of lighting in a museum are the flourescent tubes of cool type. These lamps should be used in such a way that the light from them does not fall directly on the objects. The light should first fall on the ceiling coated with white paint containing zinc oxide which would absorb the ultra-violet portion and only visible light, that too scattered, should be used to see the object on display. The Philips 37 flourescent tube are reported to be having very low ultra-violet in the light from them. The illumination should also be just sufficient to see the object properly and the dazzling lights should be avoided. While in storage the objects should be stored in dark as far as possible but proper lights should be there so that the objects may be examined periodically. Whenever it becomes necessary to use fluorescent lights directly, it is always good to use ultra-violet filters. The material like acrylic sheets or glass panes coated with titanium dioxide or zinc oxide can absorb ultra-violet radiations. The aim should be to expose the objects as little as possible to the ultra-violet radiations present in most of the light sources. Extreme care has to be taken while photographing the objects and these should be exposed to light for as little duration as possible.

(e) Care Against Dust, etc., and Handling

The dust should not be allowed to settle on the objects. Soft hair brushes should be used for the purpose of cleaning which should be done carefully and gently (Pls. 76-77). The use of polythene can be made to avoid dust in general but in specific cases like the miniatures paintings or the manuscripts these should be wrapped with good quality cloth after taking necessary steps as mentioned earlier. The objects should not be lifted with wet hand in order to avoid acidic perspiration or oil accreations especially during summer months. The cotton gloves should be used in this case. The objects should be lifted by both the hands and that too by the lowest base and not from the neck or other parts especially in case of sculptures. While handling objects of delicate type, full concentration should be on the work being done. The use of trolley or other equipments like fork-lift, if available, should be used for shifting the objects. Even when using the trollies sufficient padding material like foam cushions should be used to avoid abrasion and thereby the possible damage. When the ropes are used to lift the heavy objects padding should be used to avoid the extra burden or load at the points of contact to avoid damage. The museum objects need better attention than even personal belongings.

(f) Preventive Fumigation

High temperature, high humidity, dirty surroundings and stagnant atmospheric conditions promote fungus or insect activity. The control of the first three conditions has already been discussed. The last condition can be avoided by the use of the exhaust fans especially in the storage areas so that there is proper air-circulation and also by opening the storage-cases for periodic examination of the contents. The preventive fumigation like spray of 10% thymol solution in spirit in the storage-cases as well as the storage-room as such would deter the fungus growth. Suitable use of chemicals like napthalene balls and paradichloro benzene also checks the insect growth except in the cases of brocaded textiles and paintings. 5% solution of pentachlorophenol in spirit, if sprayed in the storage-cases, helps in the control of biological activities. In case of active fungus growth or insect attack the help of a laboratory is necessary.

(g) Contact with a Chemist or Conservator

The chemist or the conservator, if available in a museum, should be kept posted with the various problems and his help should be taken in all preservation matters including the preventive or curative preservation. The smaller institutions, having no laboratory facilities, should take the help of the larger institutions, particularly the National Research Laboratory for Conservation of Cultural Property at Lucknow, for curative measures, whenever needed.

Conclusion

These are some of the very simple practical solutions, which, I am sure, if our curators follow, would go a long way to preserve our cultural relics of the past from the decaying forces of the environment and age.

(* For a detailed account of storage problems please see Part III of the book, page nos. 103 to 126 and plate nos. 55 to 62. Editor.)

27

PACKING OF ART OBJECTS : SOME PRACTICAL SUGGESTIONS

V.P. DWIVEDI

I. Introduction

Exhibitions are one of the foremost of a museum's functions. In order to sustain the interest of the visitors, the museums arrange periodic exhibitions. None of the museum in the world can boast of being so rich in the collections as not to borrow specimens from other institutions for its exhibitions. Obviously these borrowings presuppose movements of objects from one museum to the other and sometimes from one country to another. Movements necessitate packing which is the subject matter of the present paper. We shall, however, confine ourselves to the packing of art and archaeological objects only.

The varied nature of the art objects makes it obligatory on our part to tackle the packing problems of each category separately. The packing of big stone sculptures will certainly be different from those of smaller ones in size or those made of glass, silver, etc. Similarly, a big wooden painting will be packed in a different way than a miniature painting. However, there are certain principles of packing which are applicable to all categories of art objects. Let us first discuss these.

II. General Principles of Packing

Wooden Boxes—For the packing of art objects, wooden boxes are to be preferred to the iron-sheet boxes. The reasons for this preference are many. The wood is not only lighter in weight, it can absorb shocks in a better way than the iron-sheets. The iron-container can, if crushed between heavy boxes, get damaged easily, thereby endangering its contents. While the wooden boxes are heat and cold resistant, the metal-sheet-containers can easily get hot and cold. Very heavy items, such as stone sculptures, cannot be packed in metal boxes which are likely to bend with weight, while wooden boxes can take considrable heavy weight easily. As a matter of precaution, such heavy containers should be strengthened with metal, *i.e.* iron angles and screwed at joints and corners.

Selection of Wood—The curators should be very cautious in the selection of wood for getting the boxes prepared. Light and sturdy woods of *kail* and *deodar* are most suited for this purpose. They can easily be smoothened and joined and can sustain heavy weight. As against this the mango wood is heavier, its surface cannot be smoothened easily and it develops brownish colour and warps easily in sea voyage. The *shisham* is too heavy and costly. The same is the case with teak and other woods.

Joints of Box—One precaution, however, is necessary with the wooden boxes. The joints of two planks should be fixed in such a way as not to allow water percolation or air penetration. The joints, therefore, should either be overlapping or grooved together by separate ends.

The markings on these boxes should be done very accurately and neatly. Besides, writing the address of the addressee on the top, the sender's address should also be given. Arrows marking 'this side up', should be prominently painted on all the sides, if possible, with red enamel paint. "Top", "Fragile", "Handle with Care" etc., are some of the other writings which need be painted on the box at the proper places. The marking should usually be done with the enamel paint so that it lasts longer (Pl. 82).

Use of Screws—Yet another point to bear in mind is the use of screws on the lid of the box. The main advantage of using screws is that the lid can easily be opened and closed without damaging the box itself. If, on the other hand, the nails are used, the opening process is likely to spoil the box (Pl. 83).

Use of Batons—If the art object is of a large size and heavy, it is advisable to use batons in the box to keep the object in its place. The batons should be smoothened and screwed to the side walls. There ought to be enough padding between the sculpture and the batons to avoid any possibility of harm to the art object. If two smaller objects are to be packed in the same box, it is essential to make two compartments to avoid any chance of collision. Such objects should belong to one category only, *i.e.*, either two bronzes or two stone sculptures. Putting terracotta with stone or bronze sculpture or *vice versa* is hazardous and should be avoided.

Use of Alkathene/Water-proof Paper—Other precaution needed for the packing of the art objects is the water-proofing. Either the object itself be wrapped in the alkathene sheets or the whole box should be lined with water-proof paper. In fact, it is better to use both to ensure the utmost safety. To avoid dampness, the cloth packets containing 'cilica-zel' should be kept inside the box.

Use of Thermocole—Lining the box with thermocole sheets of one inch thickness is another device to make it heat and cold resistant. Another advantage of using the thermocole sheet is that it works as a cushion and absorbs shocks, thereby ensuring safety.

Packing List—Each box must be provided with a packing list. It will still be better if the photograph of the object is kept inside the box alongwith its basic data to make the comparison easy on its arrival from one place to another (Pl. 81).

III. Packing Material

Box, about which we had been discussing so far, is only the first pre-requisite of packing. There are many more items needed for proper packing, which are described below :

Wood Wool—Paddy straw, dry grass or wood-wool is the first and foremost item needed for packing. If the art objects are going out of the country, only wood-wool can be used. International packing regulations donot allow the use of dry-grass or paddy as these can breed insects and moths. Wood-wool or grass should be filled in every nook and corner of the box, if need be, it should be inserted with a round stick or hand.

Cotton—Cotton is another important item required for packing. For small, delicate objects medical cotton is recommended. It comes in layers and is neat and clean. One can use it in the required thickness. However, for huge stone or bronze sculptures, ordinary cotton or cotton-waste can be used as the medical cotton will be too expensive. In some cases cotton-filled pillows or quilts are also used (Pl. 80).

Tissue Paper—Tissue paper is yet another important item essential for packing. It can be used in several ways because of its softness. Each object should first be wrapped in tissue paper. This will ensure its safety and will prevent cotton or wood-wool, entering into its cavities, if any. By twisting the tissue paper, small pads can be made which can be used for filling the sculpted areas. Wrapping tissue paper around cotton rolls and then using them for padding will provide good cushion (Pl. 79).

Water-proof Paper—Water proof paper is also needed to line up the box from inside as a protection against moisture. Brown paper is also useful to strengthen the packing. Brown paper, being sturdier than other ordinary papers, can sometimes be useful in preparing the pads by filling it up either with cotton or wood-wool. Such pads come quite handy in filling the empty space (Pl. 79).

Thermocole—Thermocole, being soft in nature is another useful material for packing. It can be put inside the box as an additional precaution against moisture. Its scrap and small pieces are good for filling vacant space in the packing box.

Sponge-sheets and small waste of sponge is most useful for packing. Sponge sheets can be wrapped around the object for its protection. Specially for smaller items, it is very practical to use sponge-sheets or pieces. As this material can be used and reused it proves less expensive than other material in the long run.

Bubbled Alkathene—Bubbled alkathene, if available, is doubly useful. It protects against moisture and is shock-absorber too.

Other Requirements—Various kinds of cords, twin-balls, *sutli*, scissors, blade, and different kinds of tapes like scotch-tape, gummed-paper-tape, etc. are needed for proper packing. New thick quality *markeen* cloth, is also required. Sometimes, it can be used for wrapping the objects. While on other occasions it's thin long pieces can be used as cord for binding the objects. It is easier to knot this cloth and it is sturdier also.

IV. Packing of Stone Sculptures

Stone sculptures often pose problems in packing and transportation because of their heavy weight and sizes. For internal transportation in India, the best way to pack stone sculptures is to rope them around with the twisted dry grass rope or paddy rope. If such twisted hay rope is wound around the sculpture twice or thrice, it is then safe to be transported in a wooden crate. It is unsafe to allow dry grass-roped sculptures without boxes to travel as such. They are likely to catch fire which can be ignited with the rattling of sculptures. If a full box is not needed, the crate with thin stripes of wood, leaving some space in between, can be used. Such see-through packing has an advantage that it is handled properly as the person handling it knows how precious the cargo is. A large image of Seated Saraswati made of bamboo pulp, was brought in such a see-through crate from Calcutta to New Delhi quite safely.

For stone sculptures of heavier sizes, it is safer to pack them in box, duly wrapped in cotton-waste-made-quilts (Pl. 78). Small size pillows made of cotton are useful for providing padding all around the sculpture. Still more important is the putting up of batons made of rounded wood, to keep the sculpture safe and firm in its own place. If the batons are used they should be screwed to the side walls and proper indications should be given on the lid of the box, so that while unpacking nobody is in a hurry to bring the piece out and thereby damage the statue.

In the European museums, in some cases, the batons alone are used for packing, specially for heavy and strong bronze statues. After providing cushions at the bottom by either providing thermocole or thick rubber foam, small batons of different sizes are used for making the statue firm in its position. Wherever there are projections (such as knee) or delicate parts of body (such as fingers), a foam or cotton filled padding is given and the baton is screwed. Thus by fixing several batons, it is ensured that the statue remains firm in its place. It is then covered with alkathene and allowed to travel as such. No other filling is required.

It is always better to pack each sculpture, even if it is small in size, separately. If, however, it is very small, such as 'Sarnath Buddha Head', two such pieces can be packed together in a box, but each in its own compartment, that is, the box should be divided in two parts and indication to this effect should be given on the lid of the box.

V. Packing of Terracottas, Stuccos and Pottery Pieces

Terracotta figures are much more delicate than the stone sculptures and should be treated as such. It is better to pack them in 'floating packages', that is, each of such figure, or a pottery piece ,should be packed in a smaller box which in its turn should be packed in a bigger box. In this method the object keep floating inside and the jerk or shock does not reach it as it is absorbed by the outer box.

First of all such figures should be wrapped in the tissue paper, then in the layers of the medical cotton and thereafter packed in a small box made of plywood. More cotton, sponge, foam, etc., should be filled inside to keep it firm in its position. The box should be wrapped in alkathene sheets to avoid any moisture. This box, along with other such boxes, should then be placed in the bigger box. In between such boxes thermocole sheets should be placed and large quantity of wood-wool filled. Other precautions of providing water-proof lining, putting packing list inside the box, marking each box as to what it contains, etc., are, of course, necessary.

VI. Packing of Bronze Statues

Packing of bronze and stone sculptures is similar except here some more precautions are essential. The bronze image should be thoroughly wrapped in alkathene to avoid any chances of moisture. If it is a large statue like that of a Nataraja with a halo around, it should be thoroughly padded with twisted tissue paper and medical cotton. Delicate portions, such as fingers, toes, nose, neck, etc., should be provided with extra padding. Large size statues should be made firm in their position by fixing batons. If, however, the bronze figures are small, such as the famous Kolhapur Elephant-riders (size 5 cm. only), this should be packed in the manner of a small terracotta figurine described above *i.e.*, inside a small box which should go in a bigger box.

VII. Packing of Miniature Paintings.

The first and the foremost necessity for the safety of a miniature painting, whether for packing or otherwise, is its mounting in between two sheets of mounts. The National Museum, New Delhi, is using fibre mixed hand made mountboards made at Ahmedabad which have proved very safe. Being mixed with chemicals, they not only provide support to the fragile miniatures but also keep them safe from silver-fish and other similar moths. The method of mounting is very simple.

While the mount below the miniature provides it a safe support, the one above it is cut according to the size of the miniature through which the miniature is clearly visible. However, it is advisable to keep soft tissue paper in between the two mounts to protect the colour of the miniatures.

While packing, such mounted miniatures should be kept face to face, once again putting a tissue paper in between the two. This method will ensure that the intact mount is facing outside. This packet should then be wrapped in tissue paper and alkathene. Such packets should be kept in a wooden box which should be duly lined with water-proof paper and thermocole. To make things safer, it is desirable to keep this box itself into a bigger box.

VIII. Conclusion

The above mentioned methods can be used for the packing of other categories of art objects as well. Exception may be glass-wares, *huqqa* bowls and *gulabpash*, etc., which will have to be packed with still greater caution in separate small boxes and then these smaller boxes can be packed in a bigger box.

In the end it must be emphasised that the packing of art objects is a specialised job and should not be taken lightly. It should not be left to the museum attendants. The curator/director should do it either by his own hands or certainly get it done in his presence. The curators should try to improve upon these methods by searching new materials which are appearing in the market. No method can be called perfect. However, personal attention by the curator/director at the time of the packing certainly helps in minimising the risks.

Suggested Reading

1. Dudley, Dorothy H. etc., *Museum Registration Methods* (Chapter 7 "Packing and Shipping Collections" and Article 11 "Preparing Exhibitions for Travel"), Washington, D.C., 1958.
2. UNESCO, *Temporary and Travelling Exhibitions* (Chapter V "Principles of Packing"), Paris, 1963.
3. Roy Choudhury, Anil, *Art Museum Documentation and Practical Handling* (Chapter "Packing, Handling and Transportation"), Hyderabad, 1963.
4. Nippon Express, *Transportation of Art Treasures*, Tokyo, Japan.

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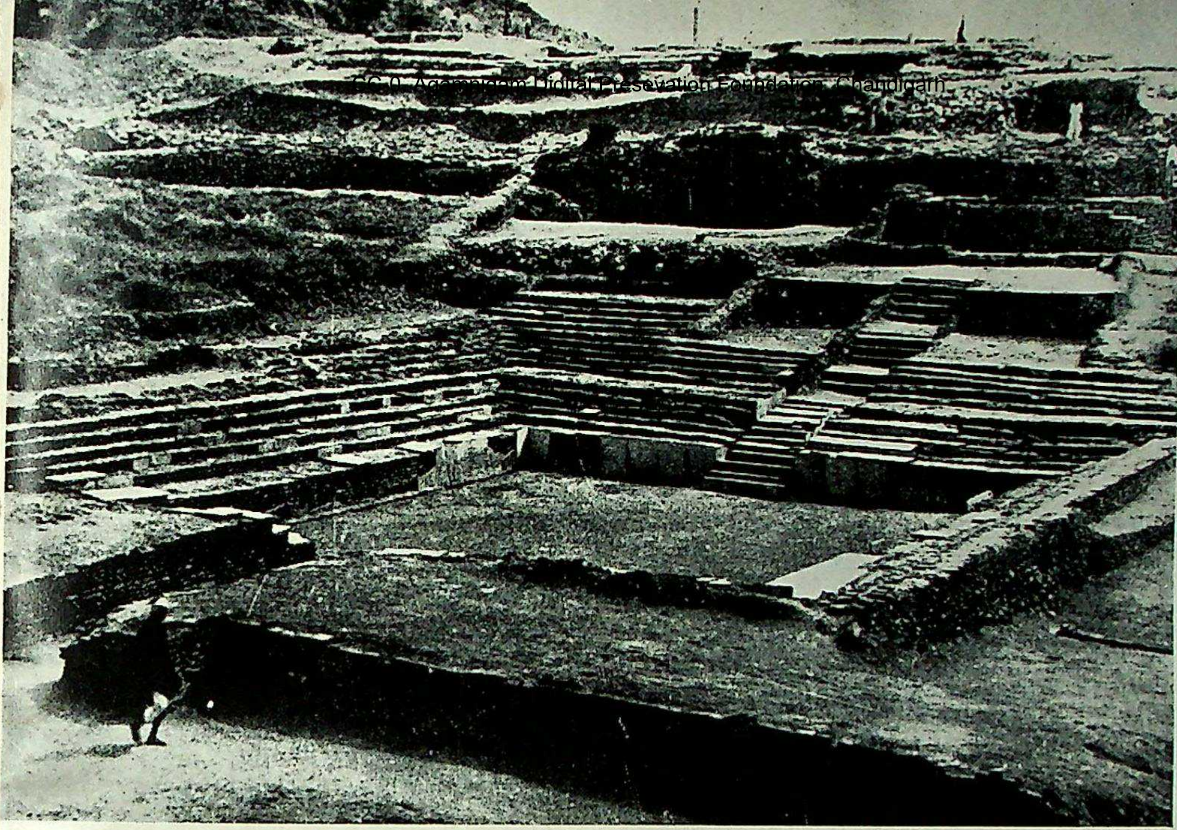
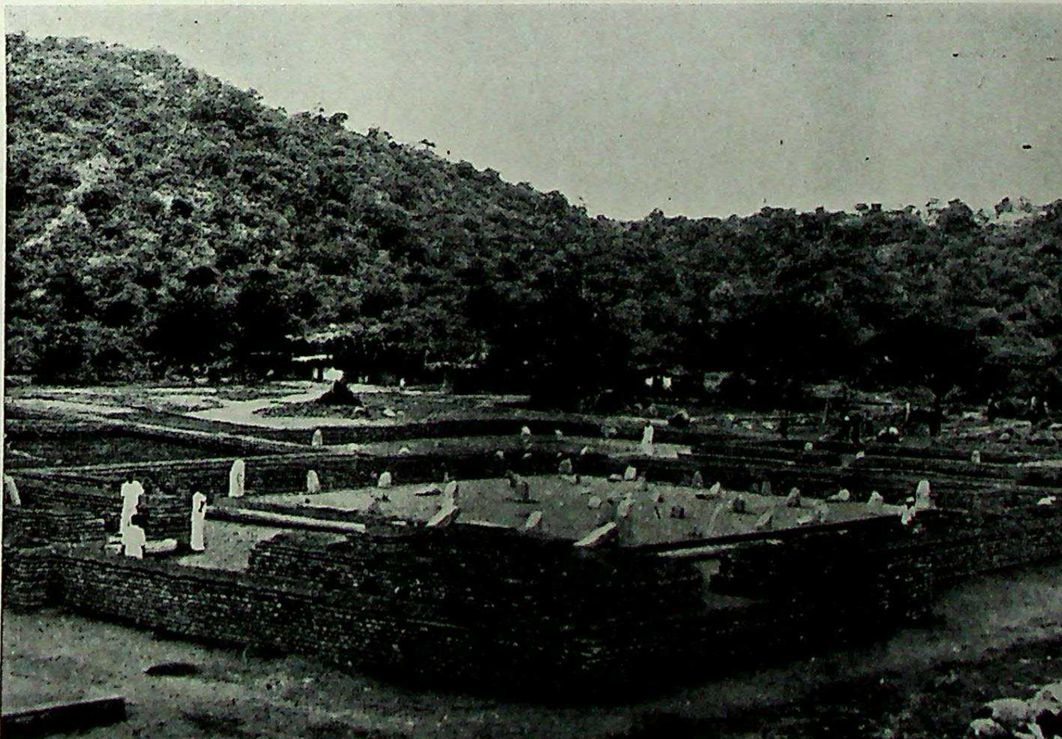


Plate 70 : Amphitheatre after excavation, Nagarjunakonda (*courtesy* : A.S.I., New Delhi).

Plate 71 : A view of a reconstituted monastery on eastern bank of reservoir, Nagarjunakonda (*courtesy* : A S.I., New Delhi).



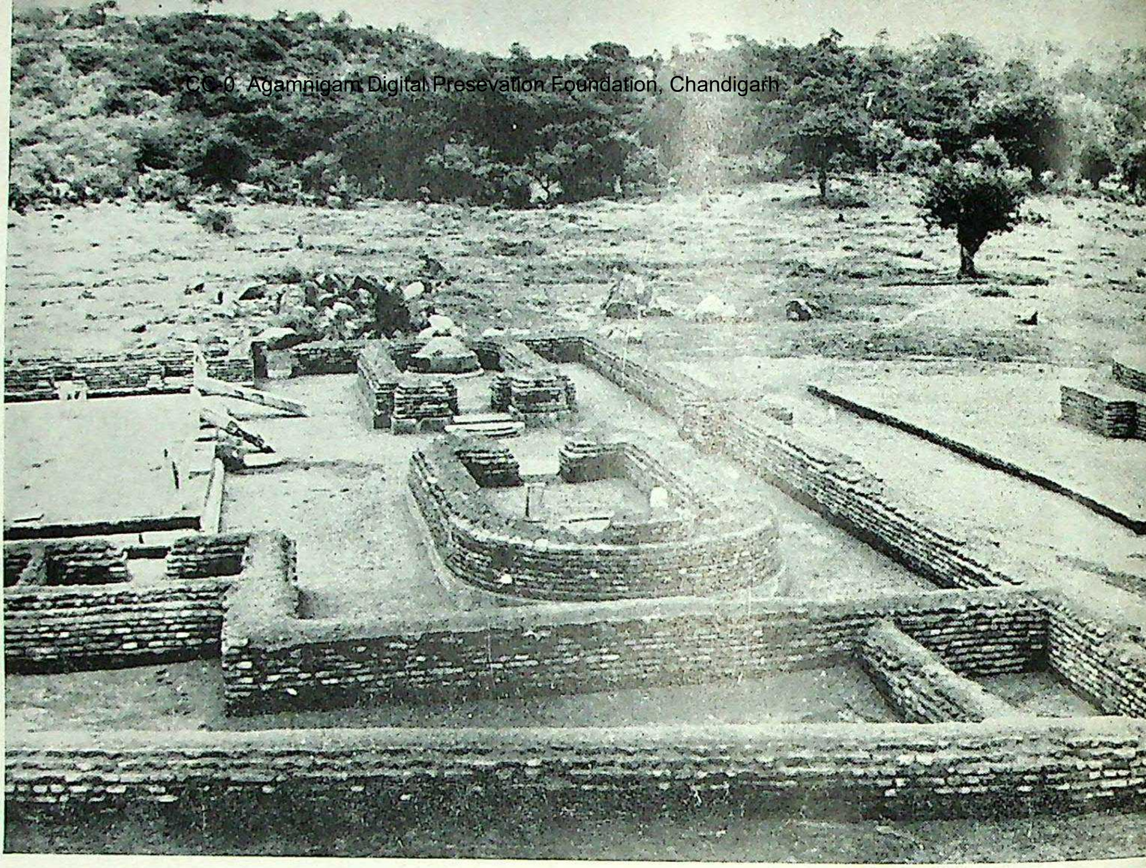
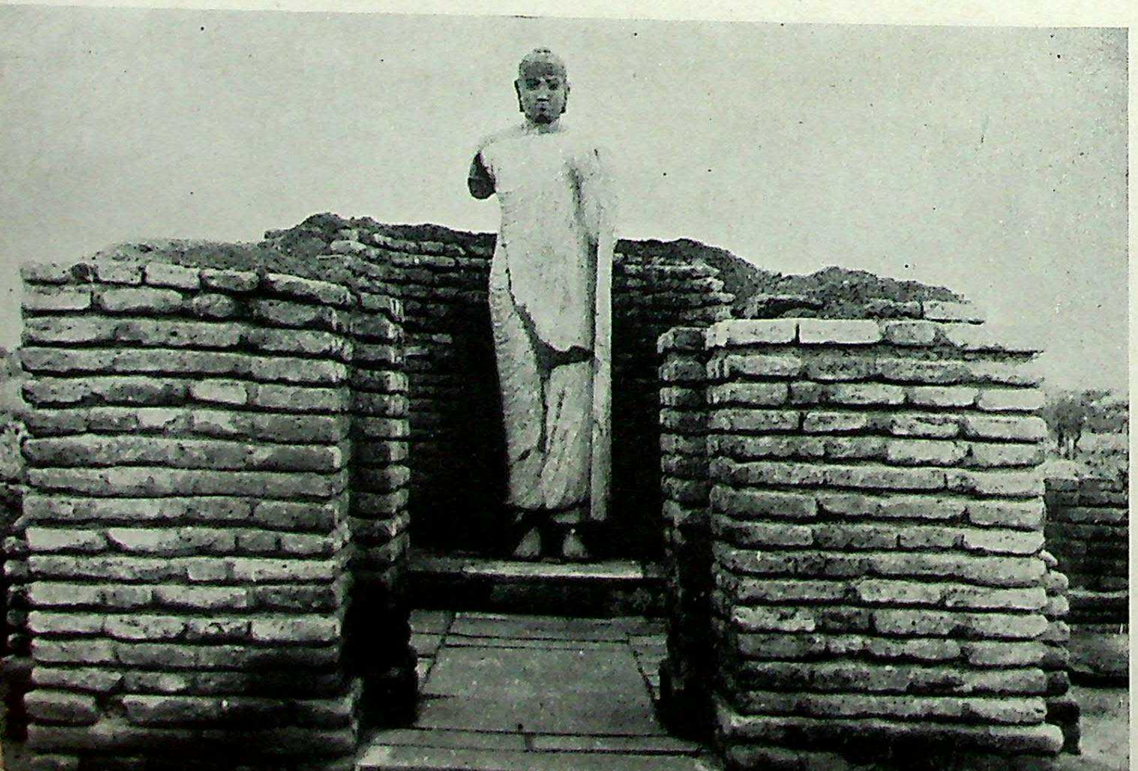


Plate 72 : A view of apsidal *chaitya-griha* of a reconstructed monastery on eastern bank of reservoir, Nagarjunakonda (*courtesy* : A.S.I., New Delhi).

Plate 73 : A reconstructed *chaitya-griha* and Budda image on hill-top, Nagarjunakonda (*courtesy* : A.S.I., New Delhi).



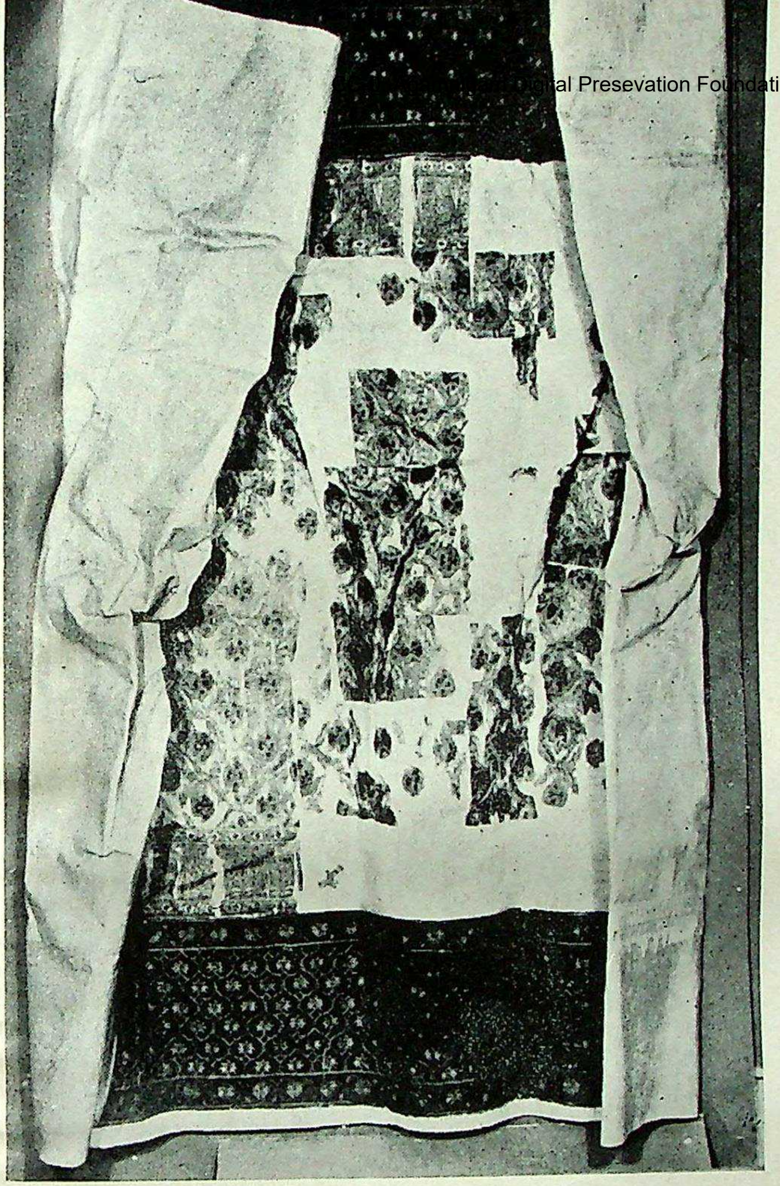


Plate 74 : Old and fragile textiles should not be folded or rolled without a proper roller (either wooden or of cardboard). View of a wrongly folded textile (*courtesy* : National Museum, New Delhi).

Plate 75 : Proper way of rolling textiles on roller to avoid damage (*courtesy* : National Museum, New Delhi).

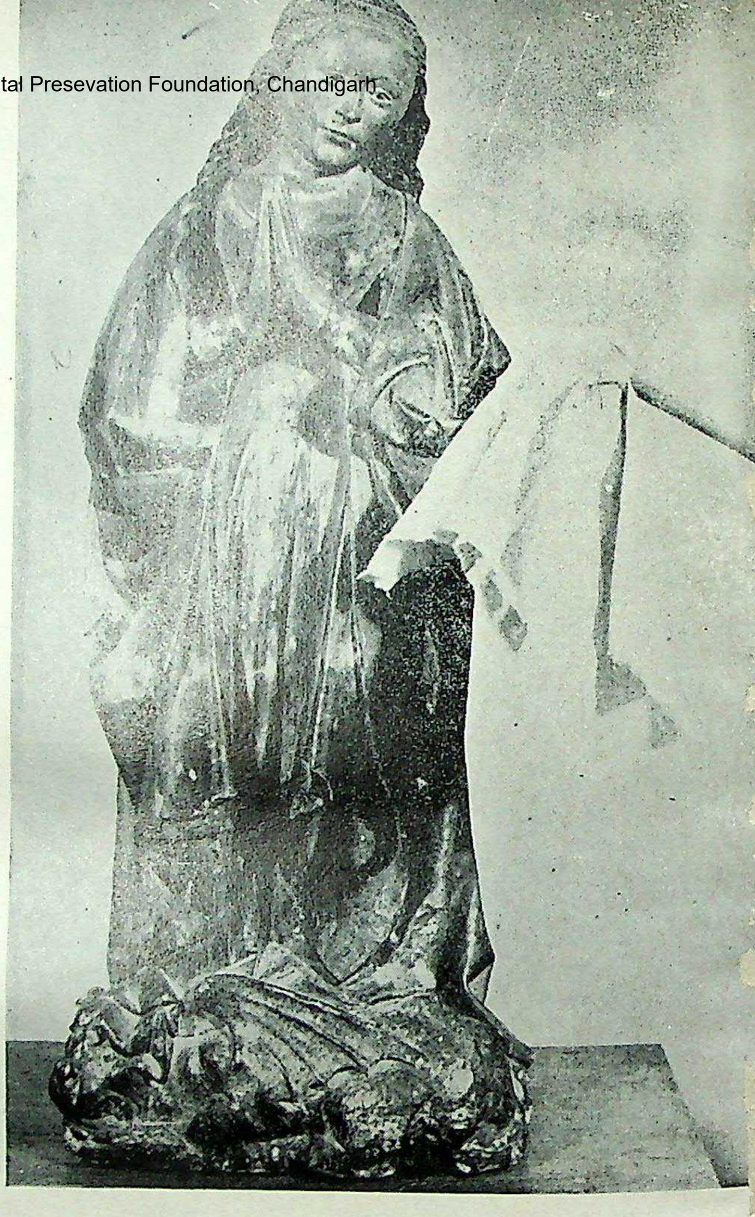


Plate 76 : Wrong way of dusting painted objects resulting into physical loss of colours (*courtesy* : National Museum, New Delhi).

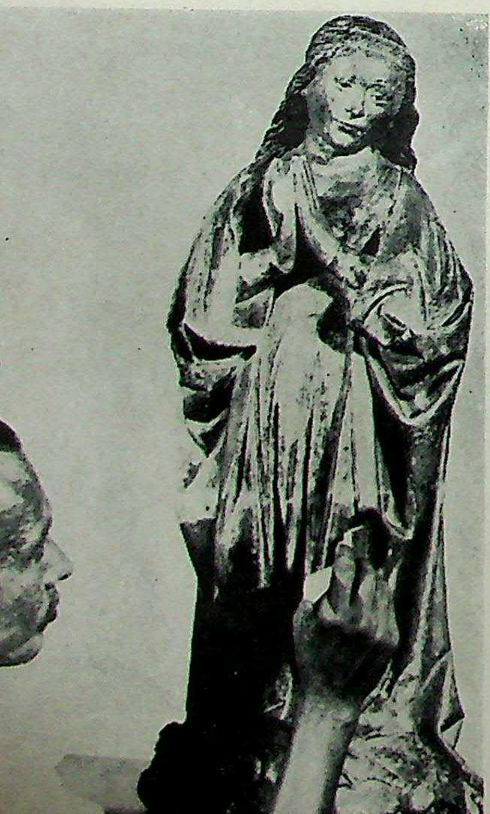


Plate 77 : Proper way of dusting painted objects with a soft hair brush to avoid damage (*courtesy* : National Museum, New Delhi).

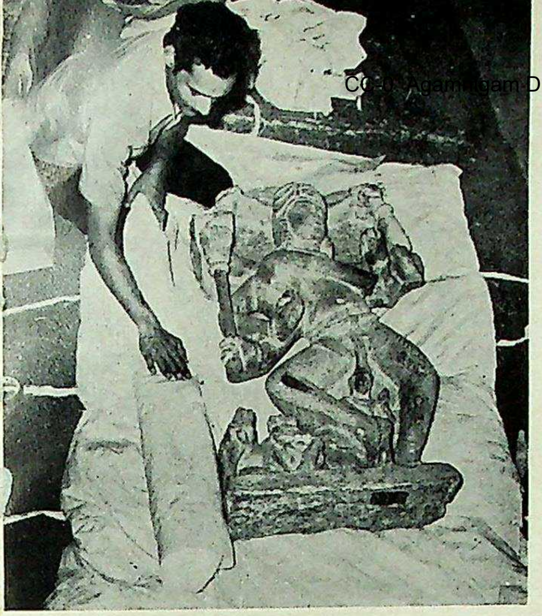


Plate 78 : For packing sculptures properly the object should b placed on a quilt filled with cotton. The quilt, as fa as possible, should be made of new coarse cotton clot and should be larger than sculpture so that it could b wrapped around the sculpture (*courtesy* : Nationa Museum, New Delhi).

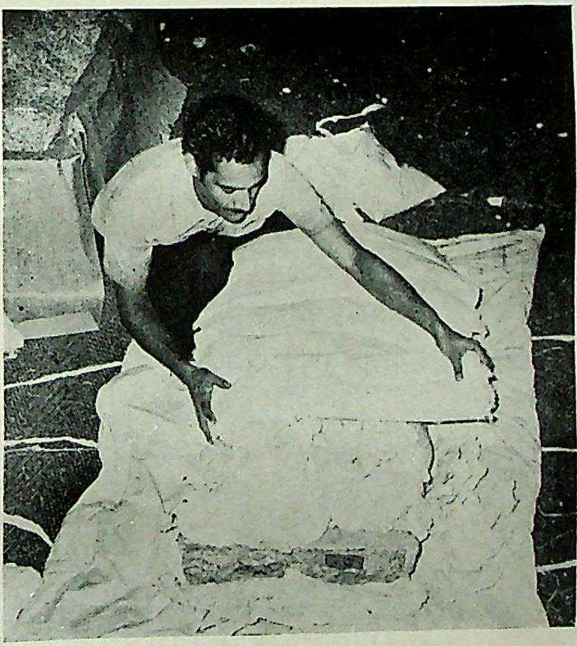


Plate 79 : The cavities in the sculpture should be filled with tissue-paper and then padded rolls of tissue-paper filled with cotton should be placed over it (*courtesy* : National Museum, New Delhi).

Plate 80 : Once the image has been levelled up it should be wrapped in the quilt and properly tied up with soft thread. The bundle should now be kept in the wooden box filled with wood-wool and lined with water-proof paper (*courtesy* : National Museum, New Delhi).

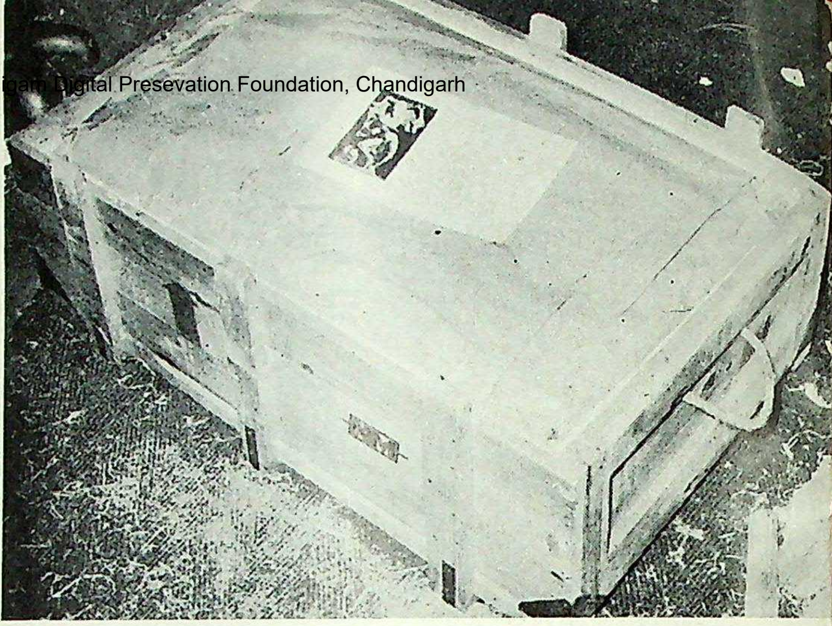


Plate 81 : Each box should have a photograph and other details packed inside it to verify the contents on arrival (*courtesy* : National Museum, New Delhi).

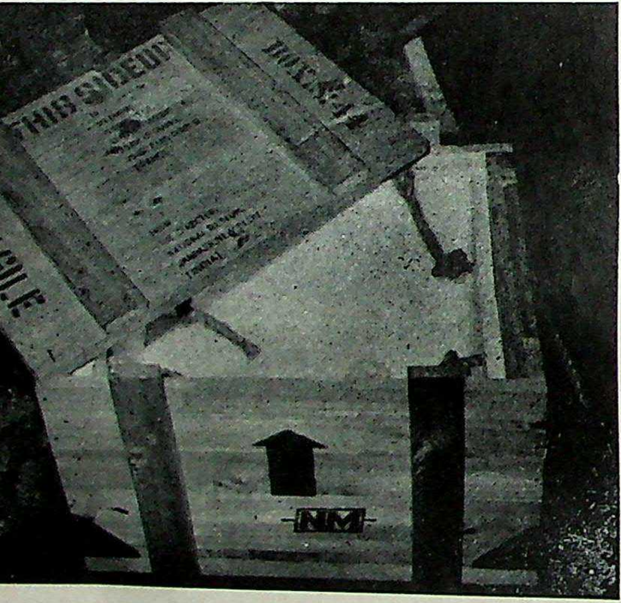


Plate 82 : The wooden box should be provided with a lining of thermocole to protect the contents from moisture and work as cushion to the sculpture. The top of the box should be clearly indicated by proper markings and complete address (*courtesy* : National Museum, New Delhi).

Plate 83 : It is always advisable to use screws for fixing the top lid. This insures that no hammering is done on the box and it can be put to use more than once (*courtesy* : National Museum, New Delhi).

PART VI

Notes on Museums and Objects

28

SOME NOTES ON THE MAHARAJA SAWAI MAN SINGH II MUSEUM, JAIPUR

ASOK KUMAR DAS

A new class of museums, known as the Palace Museums, have come into vogue in the recent years. Large ornate palaces in the midst of sprawling gardens or citadelled forts with commanding gateways, colonnaded porticos, impressive facades, spacious chandelliered halls, painted living rooms, ornamented ante-rooms and long corridors full of valuable antiquities, period furniture and royal paraphernalia open up a world of bygone splendour and luxury before the spectators. In our changing society these relics of recent past have created a lot of interest and importance.

In their prime, many of the states extended all facilities for the production of objects of art and crafts of the highest quality and value. They maintained large establishments and ateliers employing the finest craftsmen and artists who in their turn, gave their best in producing the superb objects which every museum would like to possess. The thirty-six *karkhanas* (ateliers) and fifty-two *kachharis* (state departments) included in their enormous establishment; some of them like the *toshakhana* (wardrobe), *silehkhana* (armoury), *pothikhana* (library), *suratkhana* (painting storage), *chhapakhana* (cloth printing department), *filakhana* (elephant's stable) produced enamelled or jewelled ornaments, embroidered or decorated costumes and fabric materials, manuscripts and miniatures, arms and armour, thrones, *howdahs* and paraphernalia objects, etc. The state departments like *farrashkhana*, *shikarkhana*, *bagghikhana*, *rathkhana*, *filkhana*, *atishkhana*, *suturkhana*,* etc., looked after the related departments catering to the needs of transport, camping, hunting, military exploits, state and private ceremonies and functions, festivities, etc. Each of these departments contained thousands of objects unobtainable elsewhere. In addition to these the Maharajas inherited and enriched further a large and important collection of books, manuscripts, miniatures and armoury objects which included many rare and outstanding examples of high artistic value and historical importance.

When the princely states merged with the Indian Union after the country achieved its independence on the 15 August, 1947, the palaces and the forts maintained by them lost their significance. The position became more delicate when a series of legal and constitutional measures were adopted to abolish the hereditary rulership, titles and privileges and it was no longer easy for the ruling class to maintain their costly establishments. For some rulers the palaces became a liability and in some smaller establishments the collection of antiques and period relics started to disappear in a systematic manner through the connivance of unscrupulous elements. Most of the large states, however, absorbed these stresses and strains and succeeded in preserving their rich heritage, in spite of the inevitable shift in their bearing. It was mainly these rulers who did not succumb to the demanding conditions and upheld their identity in contemporary history and, therefore, thought of converting their palaces and forts into the public museums. This was undoubtedly the best way to ensure their survival and safety and definitely a far more imaginative and enlightened way to preserve them than to convert them into offices or commercial establishments.

The Palace Museums were started at a time when their need was most intense. They have given the unused forts and palace a new lease of life and the objects an opportunity to be preserved in their original setting. In the European countries the old palaces, cattles and manor houses have long been preserved for the posterity with the express purpose of saving the valuable materials of history and culture in which these important monuments had prominently figured. It would not be proper to say that the Palace Museum actually provided an opportunity to the Maharajas to continue their lavish life style. Though the list of the Palace Museums is not so short now with such museums in Gwalior, Varanasi, Jaipur, Udaipur, Jodhpur, Mysore, Bikaner, Kota, Jammu, Baroda, etc., yet they do not conform to a set type. Their collection, organisation, administrative set-up and standard of service show distinct variations.

The Maharaja Sawai Man Singh II Museum, Jaipur, was officially registered as a public museum in 1959 A.D. when it was known as the Maharaja of Jaipur Museum. It had, however, a long and interesting history worth recalling. The idea of organising a museum to preserve and exhibit the rich collection of antiquities as well as examples of contemporary art and crafts, accessible to the public, came from the unorthodox Maharaja of Jaipur, Sawai Ram Singh II. While discussing on the possibility of building permanent memorial to the visit of the Prince of Wales in 1876 A.D. the Maharaja accepted the suggestion of his Prime Minister Rao Bahadur Kantee Chunder Mookerjee, CIE, to start a public museum. The task of organising the museum fell upon the British Surgeon-General Col. Thomas Holbein Hendley. Within five years, Hendley collected a fine and representative collection of textiles, handicrafts, decorative objects and replicas, and a public museum was opened on the 21st August, 1881 A.D. in the School of Art in the Kishanpole Bazar. The lofty building for the museum was planned by, Col. S.S. Jacob, CIE the Superintendent Engineer at Jeypore, in the Ram Nivas

Garden, the foundation stone of which was laid by the Prince of Wales on the 6th February, 1876 A.D. With the liberal grants from Maharaja Sawai Madho Singh II who came to the Jaipur throne after Sawai Ram Singh II's death in September, 1880 A.D., the building was completed in 1883 A.D. to house the highly successful Jeypore Memorial Exhibition held in the same year. This was the largest and the finest exhibition of art and crafts ever held in India. It evinced keen interest in Indian art and craft objects in the country and abroad and helped to highlight and revive the rich age-old craft traditions suffering from the neglect and lack of patronage. The public museum started to function in the new building from the 21st February, 1887 A.D.

While the public museum, known as Jeypore Museum, was opened "without admission charge, to visitors of all classes, between dawn and dusk on week days and for a few hours in morning and afternoon on Sunday with provision of being lighted with gas for an hour or two after sunset once a week", there existed another museum in the Chandra Mahal Palace of the Maharaja with limited access. The Kacchhwaha rulers of Jaipur extended liberal patronage to the literary and artistic creations and collected important manuscripts and interesting paintings. The collection was updated by Maharaja Sawai Jai Singh and Sawai Pratap Singh in the eighteenth century A.D. with many important additions including the most celebrated Mughal manuscripts of the *Razmnama* and the *Ramayana* prepared for Emperor Akbar's special library. Many Mughal and Persian carpets, arms and armour, miniature paintings and manuscripts were included in the family collection. A late 16th century *Bhagavata Purana* with North Gujarat style illustrations, contemporary copies of Surdas's *Padavali*, Biharidas's *Satsai* and Sawai Jai Singh's *Zij-i-Muhammad Shahi* were also added to the collection. Maharaja Sawai Ram Singh II loved to show these proud possessions to the visiting dignitories and friends. A representative selection of books, manuscripts, miniature paintings, *pichchwais*, etc., were displayed in the *Pothikhana* situated on the upper floor of the Ananda Mandir rooms adjacent to the *Khaso Silekhana* or *armoury*. The manuscripts included works showing a variety of fine writings, painted book covers, scrolls and *gutkas* (miniature volumes), a selection of astrological and astronomical books and manuscripts in Arabic, Persian, Sanskrit, Latin and English, atlases, maps and plans. The armoury consisted of swords and knives of various types, shields, handguns, spears, handaxes, chain-mail armours, etc., displayed in a luxurious setting. The collection was shown to the selective visitors with the special permission of the Maharaja.

In the subsequent times the collection was shifted to the upper storey Billiard Room of Maharaja Sawai Ram Singh II, from where it was moved to the spacious Banquet Hall in the centre of the Jai Nivas Garden to the north of the Chandra Mahal. It was again shifted to the *Pothikhana* and *Diwan Khana* after 1948 A.D. At the time of the merger of the Jaipur State in 1947 A.D. Maharaja Sawai Man Singh II gave serious thought to preserve the collection as a distinct and separate entity in Jaipur and inserted a clause in the covenant of accession for the creation of a Public Trust to take care of this collection of antiquities, manuscripts, works of art, etc., on a permanent basis. The Trust was registered in June, 1959 A.D. and the museum was thrown open to the public. In 1970 A.D. the whole City Palace Complex, excepting the upper floors of the Chandra Mahal and some adjoining areas and buildings, was given over to the Trust by Swai Bhavani Singh and was renamed as Maharaja Sawai Man Singh II Museum Trust after the name of the founder who died on the 18th June, 1970 A.D.

Initially the Museum had two galleries—the *Pothikhana* or Art Gallery and the *Silekhana* or Arms and Armour Gallery. The visitors also had access to the open *Diwan-i-Khas* hall known as *Sarvatobhadra*, the Pritam Nivas courtyard and rooms, and the beautifully decorated northern *verandah* of the Chandra Mahal. The *Pothikhana* is, in fact, the old *Diwan-i-Am* or *Diwankhana* converted into an exhibition gallery showing Mughal carpets, manuscripts, miniature paintings, painted book covers, *pichhwais*, illustrated manuscripts, *ganjifas*, paper-cuttings, as also *ambadis*, *howdahs* and a *takht-e-rawan*. The *Silekhana* did not contain anything other than arms and armour. The Pritam Nivas hall and anterooms were decorated with a fine selection of Mughal glassware, large silver objects including a delicately chased *huqqa*, a silver and gold *howdah* especially made for the use of the British monarch and the traditional silver throne of the Jaipur Maharaja, velvet floor-spread, canopy and elephant trappings with gold *karchobi* work. Thus the visitors could see the portions of the Palace along with a fair number of paraphernalia objects and two specially organised galleries, containing antiquities from the Palace collection.

A third gallery was added within a short time with selections from the rich collection of costumes and fabric materials from the Palace. The discarded old kitchen and provision rooms of the Palace were demolished to make room for new exhibition halls. The portions of it is being used as a temporary exhibition gallery. The painting and illustrated manuscripts will be displayed in another part of the gallery. The upper floor will house the fine collection of decorative arts including metalware, blue pottery, earthenware, glass objects, wood carvings, toys and dolls, old furniture, etc.

It would not be out of place to mention the most important items in the collection of this Museum which could reveal its importance. The most celebrated items in the Museum are, no doubt, the manuscripts of the *Razmnama* and the *Ramayana* specially commissioned for the personal use of Emperor Akbar. The manuscripts were calligraphed by the finest court scribes and illustrated with 340 matchless miniatures painted by the leading masters including Mahammod Sharif, Daswant, Basawan, Lal, etc. The total cost of the *Razmnama* manuscript alone came to seventy-two thousand gold *mohurs* at the time of its preparation in the 1580s. Hendley realised the importance of this valuable manuscript and published most of its miniatures in a luxurious volume in 1883 A.D. which is the earliest publication on the Mughal painting.

The collection of textiles and costumes in the Museum is quite extensive with a fine selection of hand-block prints from Sanganer, tie-and-dye cloths from Jaipur, brocades from Banaras, *mashrus* and embroidered articles from Gujarat and Delhi, shawls and *jamewars* from Kashmir, along with Mughal *patkas*, coverlets and window-curtains, Jaipur *gota* works, patterned silks from Banaras, Aurangabad, Murshidabad and Gujarat, etc. A seventeenth century cut velvet throne carpet with floral plant design, an enormous *atamsukh* used by Maharaja Sawai Madho Singh (1750-1767 A.D.), a *chaga* believed to have been designed by Maharaja Sawai Pratap Singh (1778-1803 A.D.) and a complete Diwali outfit for a Maharani with all over *jari* and *gota* applique work on black, some delicate Chanderi *sarees*, deserve special mention. Large Mughal *durbar* carpets with arabesque and flowering plant design, rare carpets designed with floral motifs and an all silk carpet of unique delicacy form the most important group in the Museum's collection.

The Arms and Armour Gallery of the Museum is well known throughout the country for its large variety. The swords deserve special attention as there are at least six beautiful blades bearing the hallmark inscription of the celebrated sword-maker, Assadullah Ispahani; one showing the royal Persian insignia and two inscribed with the name of Emperor Shah Jahan in elegant Nasta'liq letters. The unusually large eleven-pounder curved *khanda* is believed to have been used by Raja Man Singh (1589-1614 A.D.) himself. The European swords coming as presents from the British monarchs and viceroys or collected by the Maharajas are also put on display. There are many superb Mughal knives of various designs with beautiful handles carved out of ivory, walrus tooth, jade, agate, crystal or made of gold, silver and brass. Fine body armour, chain-mail, many types of shields, jade, agate and rock crystal thumb-rings, buckles, inlaid or enamelled sword handles and scabbard-mounts enrich the collection. Early guns including matclocks, flintlocks, percussion cap guns, blunderbuss, pistols, revolvers, camel guns, etc., either imported from Europe or manufactured in Jaipur or elsewhere in India, fill up a considerable part of the collection. In addition to these, there is a superb collection of gun-powder flasks carved out of horn, ivory, wood, sea-shell or made of brass, silver, hide or mother of pearls.

In the Art Gallery a number of miniature paintings, illustrated manuscripts and painted book-covers are exhibited besides the Mughal carpets and paraphernalia mentioned above. Of particular interest are a group of six large *pichhwais* from Hyderabad, seven super-life-size portraits of the Maharajas of Jaipur painted by Sahib Ram, a large Kishangarh painting of Krishna and Radha, and the collection of manuscripts on astronomy, early printed books and atlases collected by Maharaja Sawai Jai Singh. The painting collection includes many signed masterpieces of the Mughal court-painters like Manohar, Mansur, Lal, Balahand, Bishandas, etc.

In addition to these, a fine collection of Mughal glasses is displayed in the wall-cases of the Pritam Nivas. The collection of the manuscript paintings and decorative art objects in the Museum is indeed very large and contains many rare and unique items. The most important of these are a contemporary copy of Surdas's *Padavali*, an early copy of the *Bhagavata Purana* with nearly one thousand illustrations painted by Govinda, son of Narada in 1577 A.D., early printed books including a copy of the *Pathway to Knowledge* published from London in 1551 A.D. and above all the four-volume-set of the *Razmnama* and the single volume of the *Ramayana* manuscripts mentioned earlier.

The display arrangement at present puts emphasis on the richness and variety of the collection and does not make any attempt to recreate the periodic setting. In order to preserve the true flavour of the Palace it is essential to recreate the original setting of the Palace by using contemporary furniture and fittings. The Museum has taken up this programme in its future planning.

References

*Other *karkhanas* are : *Khayakhan* (papier mache and earthenware), *Gwalera* (dairy), *Sikarkhana* (hunting), *Rasoda* (kitchen), *Taterkhana* (hotwater), *Tambulkhana* (betel), *Okhadkhana* (drugs and medicines), *Baghayat* (garden), *Masalkhana* (lighting), *Patangkhana* (kites), *Patarkhana* (training of young girls of the Zenana Deorhi in dance, music and acting), *Karkhana Punya* and *Dharmarth* (daily rituals and charities), and *Khazana Behla* (royal treasury). The list is based on contemporary records and accounts from the time of Sawai Jai Singh (1699-1743) and Sawai Madho Singh (1758-1768) preserved in Jaipur *Kapadwara* and Rajasthan State Archives, Bikaner, and compiled by G.N. Bahura, *Literary Heritage of the Rulers of Amber and Jaipur*, 1977 pp. 13-15.

29

THE ISLAND MUSEUM OF INDIA—ARCHAEOLOGICAL MUSEUM, NAGARJUNAKONDA

K.R. VIJAYARAGHAVAN

The title Island Museum needs a small explanation because the 'Island' and the 'Museum' by their very nature are not complementary. The island by connotation automatically implies a certain amount of inaccessability whereas a museum is a public institution and as such should be easily approachable by as many people as possible. Therefore when we talk of an Island Museum it means that there must be some special reasons for a museum to be located on an island. Now the question arises what are the compulsion for locating a museum on an island. For the museum about which we are now discussing, the compulsion was the submersion of the area by the reservior artificially created as a result of the construction of a dam across the river Krishna. I am referring to the Island Museum of Nagarjunakonda in District Guntur, Andhra Pradesh.

Nagarjunakonda, literally the Hill of Nagarjuna, was earlier known as Vijayapuri. The valley, surrounded by the hills on the three sides and the river Krishna on the fourth, was also known by the same name, a peaceful and not easily approachable place till the Nagarjunasagar Dam was envisaged by our engineers. However, there is as yet no clear archaeological or literary evidence to connect this place with Nagarjuna, the famous Buddhist Philosopher.

The rich archaeological wealth of the site remained unknown to the world till 1926 when it was brought to the notice of the archaeologists by A.R. Saraswati, a Telgu Assistant to the Archaeological Superintendent for Epigraphy. The site was known, almost about the same time, to a few local enthusiasts as well.

This discovery led to the extensive excavations by Longhurst, the then Superintendent, Archaeological Survey of India, Southern Circle, in 1927 A.D. and was continued till 1931 A.D. exposing a number of Buddhist monasteries and other monuments, besides numerous sculptures of great skill and artistic beauty. In 1939 A.D. excavations were once again continued in the same area by

T.N. Rama chandran. All the finds recovered from the site during these excavations were housed in a rectangular building, constructed specially for the purpose. This formed the nucleus of the Archaeological Museum here, one of the site museums planned by the Archaeological Survey of India.

This Museum was formally organised in 1946 in a rectangular structure, which served both as a public gallery and the reserve collection, since in the days gone by, the museums were organised by the scholars for the scholars and display methods were neither contemplated nor adopted. The sculptures were arranged on running masonary pedestals in two or three tiers and what were left over were placed on the floor helter skelter (Pl. 84).

Now to continue the story of the Nagarjuna Valley, the excavations, mentioned above, did not completely exhaust the potentiality of the site. When it was decided to construct an irrigation dam here to convert the valley into a 300 ft. deep reservoir, the Archaeological Survey of India once again decided to take up large scale horizantal excavations. A special project was formed for this purpose under the leadership of R. Subramanayam, Superintendent of the Survey. The excavations and salvage operations continued for six years from August, 1954 onward. During this hectic period more than hundred sites were exhumed, ranging in date from the Early Stong Age to the Late Medieval Period. Thus though the sites and monuments themselves could not be saved from being submerged, the results threw a challenge to the archaeologists to save the total destruction of the cultural property and also to preserve them expeditiously, though in another place. This started the reconstruction and transplantation of the monuments, a task India had never undertaken before. The other example which can be cited of such work is the salvaging of the monuments of Nubia on the Nile in Egypt.

The numerous antiquities recovered during these years are now housed in a fine building specially constructed for the purpose on the Nagarjunakonda *i.e.*, the Hill of Nagarjuna, which is now an island formed by the reservoir, Nagarjunasagar (Pl. 85).

A plan for the construction of a building to house these cultural vestiges on the hill top, as the first island museum of India, was envisaged by the Expert Committee headed by the Secretary to the Government of India, Ministry of Education, and consisted of the architects, engineers and archaeologists. But unfortunately no working museologist was associated with the construction of building. This resulted in a number of shortcomings which could have otherwise been avoided. Primarily in the public galleries, what the museologist needs is the maximum floor space and the maximum wall space. As far as possible the pillars are to be avoided. Unfortunately at Nagarjunakonda all the galleries have numerous pillars resembling the pillared *mandapas* rather than the museum galleries. Another glaring defect is the lack of storage space for antiquities. These experts, perhaps, thought that all objects unearthed from this vast site, would be displayed to the public and there would be nothing left to be kept in the reserve. If this were so, the size of the building should have been at least four-fold, if not more. The result was that the objects not fit for display were stored at a number of places. Later on a part of the inscription gallery was converted into antiquity storage space, where sculptures were left strewn on the floor. But other objects like pottery, terracottas, etc., continued to be stored in the office of the Assistant Superintending Archaeologist, on the Right Bank, a distance of more than 10 km. across the lake.

The Museum as organised at present displays relics obtained from the succeeding excavations spanning all the periods through which Nagarjunakonda has passed, and presents an integrated picture of the cultural vicissitudes of the Nagarjuna Valley.

Starting from the reception hall, the Museum has three large galleries, apart from a small room in which a scale model of the Valley and the models of the monuments now submerged or transplanted can be seen.

The main hall, as one enters, can be called the Key Gallery. This offers the choicest specimens in the collections such as jewellery, beads, coin, relic caskets and limestone sculptures including a colossal Buddha, Yakshas, sculptured slabs called *ayakapatta* and a moonstone.

The beads on show include the disc-beads of shell or steatite paste of the Neolithic period, silver ones of the Megalithic burials and several types of the Ikshvaku period (Pl. 86).

The Museum can boast of a rich collection of coins including two of the Roman Empire with which South India had trade relations. The majority of them are of the later Satavahana and Ikshvaku rulers.

All the important *stupas* of Nagarjunakonda yielded reliquaries variously of gold, silver, copper and glazed pottery. There is a complete set of caskets, *viz.*, gold reliquary contains relics in the form of bones, gold and silver flowers kept inside a silver casket, which in turn was kept in a copper one, all of which were lodged inside a glazed earthen ware receptacle of the shape of a *stupa*.

There is also a fine collection of jewellery, both of the Megalithic period and also historical, kept in the reserve which can be seen on request. A gold necklace and a pair of ear-rings with minute filigree-work, both belonging to the Ikshavaku rulers, are noteworthy.

A bust of the Buddha almost greets the visitors at the entrance of the gallery. Other sculptures displayed here are architectural pieces, like the cosmic beam, coping stones and *ayakapattas*. The themes depicted in these beautiful pieces are mainly from the life of the Buddha, both before and after his birth.

There is a colossal statue of the Buddha just at the end of this gallery, blessing the visitor, as it were, before the latter turns to the next hall. This figure was found in fragements which were put together by the modellers of the Survey. A photograph kept behind the figure shows as to how exactly it was discovered during the excavation.

Two large showcases in this Key Gallery contain prehistoric and protohistoric objects. The use of tools is demonstrated through sketches and models.

In Gallery No. 2 are ornamental limestone slabs which once decorated the bodies of the *stupas*. They depict scenes from the life of the Buddha and the Jataka legends. Also to be seen are small and medium-sized sculptures and lintels of limestone, stucco and teracotta figures, all typical of the Ikshvaku period besides pottery of the Ikshvakus and their successors. The gallery also houses the Brahmanical deities discovered in the course of excavations, besides a few pillars bearing reliefs on secular themes (Pl. 87).

The Ikshvaku rulers and their queens left behind a large number of inscriptions in the Valley. The records occur on tall pillars that adorned the front of the *stupas*, *mandapa*-pillars, including memorial-pillars, detached slabs and images of deities. The script with long vertical loops is typical of the age. The language is mostly the Prakrit with a slight admixture of the Kannada but there are a few inscriptions in the Sanskrit as well. The records throw light on the prevailing religions in the Valley during the Ikshvaku rule and tell that the Buddhist establishments were frequented by the people coming from the distant lands; in fact, some monasteries were also built for some Ceylonese Buddhist communities. From the inscriptions one may also come to know that the resident monks belonged to a number of Buddhist sects.

The earliest epigraphic record in this gallery is a four-line Prakrit inscription on a pillar inscribed in the sixth regnal year of Vijaya Satakarni, one of the last Satavahana kings, in the Brahmi script of the third century A.D. This Buddhist record established beyond doubt that the Buddhism had penetrated into this Valley well before the Ikshvakus.

In front of the Museum are displayed the small scale models of a number of monuments now lost for ever. A few monuments were transplanted from the submerged Valley and fixed in the next enclosure, which acts as an annexe for this wonderful Island Museum.

Suggested Reading

1. Morley, Grace, Nagarjunakonda Museum, *Museum*, Vol. XXV, No. 1-2, pp. 101-107.
2. Sarkar, H. and Mishra, B.N., *Nagarjunakonda*, New Delhi, 1972 (2nd. Edition).

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THE RAIL TRANSPORT MUSEUM, NEW DELHI

S.C. MANCHANDA

On the afternoon of April 16, 1853, three small steam engines puffed their way from Boribunder to Thana, pulling 400 passengers in 20 primitive coaches. The event was applauded by a vast multitude and honoured by a 21 gun salute. The train reached Thana, a distance of 21 miles in 57 minutes. The railways had arrived in India. This was 28 years after the world's first steam engine steamed out from Stockton to Darlington.

From a modest start of 21 miles, the 11,000 trains of the Indian Railways, that every day carry over 8 million passengers and nearly 7 million tonnes of freight, cover a distance of over 1.2 million kilometres, a distance equivalent to three and a half times the distance of the moon. The Indian Railways legitimately claim to be the Asia's largest and the world's fourth largest railway system.

The resposibility of acquiring and maintaining the milestones of this amazing growth lies with the Railway Transport Museum. With the increasing emphasis on speed and economy, the colourful decorations and exotic embellishments that distinguished the earlier railways have disappeared. But for the efforts of the Museum authorities, these wonderful relics of the past would have been lost to posterity. A visit to the Museum is not only an education in the history of Railways but also a treat to the eyes. With nearly 9000 active steam locomotives still operating on four different gauges at the relatively slow rate as compared to elsewhere in the world, at which steam is being banished in favour of diesel and electric power, India has a great deal to offer to the dedicated railway enthusiast. The early colourful coaches excite the same nostalgia in the Indian mind which the steam engine excites in the minds of the people in the West.

Originally conceived of in 1962, the Rail Museum was finally opened in Feb,. 1977, though without the other projected divisions of aviation, shipping, transport and communication, which alongwith the Rail Museum will be grouped in the same area under the generic name of the Transport Museum. It has been built at an estimated cost of Rs. 42 lakhs.

Rich and Fascinating Collections

Spread over ten acres of land, the museum comprises of an elegantly designed octagonal building housing six display galleries and a large open area laid out to simulate a railway yard (Pl. 88). Carefully spaced on tracks of different gauges, the museum has a rich and fascinating collection of 43 antique engines, quaint carriages and saloons stationed in the outdoor area. Each engine and carriage has been chosen for intrinsic distinctiveness, then meticulously cleaned, refurnished and finally painted in exactly the colours that it originally bore. The landscape has been planned to merge with the exhibits. Circumnavigating the entire outdoor exhibits is a mini Joy Train that carries passengers and regularly chugs around with many convincing hoots, whistles and blowing of smoke, though the engine is a diesel one designed to look like a steam engine, so beloved of children. Those who are short of time may take to a ride in this Joy Train, which completes the circuit in seven minutes. There is a minature station at the edge of a pool amidst which hosts a two-storeyed floating-restaurant. Facing the station, in the octogonal building, are the documents, the photographs, still and working models, the antique furniture, crookery and cutlery, the coat-of-arms, original fittings and other items that comprise the pictorial and documentary history of the Railways. The six galleries in the building cover different aspects of the Railway equipment used in the past, recent realisation and the plans for future. Inside the galleries are displayed the development of the locomotive power, carriages and wagons designed for the hill railways, railway workshops, wagon fittings and signalling interlocking and tele-communications. There are historical photographs of the old Church Gate station in Bombay, the Arabian Sea almost washing the western wall of the platform. There are reconstructions of the Great Mountain Railway Lines : the Rack and Pinion Railway to Ooty, the Kalka-Simla line with its 103 tunnels, the Matheran line with its unique motor rail cars and the exquisite Darjeeling-Himalayan Railway which draws tourists from all over the world. And there is well preserved tusk of an elephant whose firm refusal to budge from his seat of comfort on the Railway track caused the derailment of a seven bogie train going from Calcutta to Nagpur in 1894 A.D. The elephant died on the spot. The tusks were sawed off. One was taken away to London, the other was kept by the engine driver James Bell, who latter gave it to the Railways. And thus lives on the story of the elephant that derailed a train. In the modernisiaton gallery, which is the sixth gallery, the visitors can see the railway's current research and development efforts ranging from the plans for an underground system to the double-decker carriages which have recently been introduced on the Bombay-Poona line.

Fairy Queen

Sadly enough the first three engines which ushered a Railway era in India are still a nostalagia to be located, we have been able to preserve in the museum a

1855 built vintage steam loco, called 'Fairy Queen'. Just outside the building, slightly to one side, is a 'Covered shed' which is now the residence of this 123 year old 'Fairy Queen'. This shed is something of a shrine for Railway-buffs. This loco is perhaps the oldest surviving locomotive in perfect working order conserved in the world on day. Built by a Leeds Firm of Kitson, Thompson Hewitson and weighing only 26 tons, it was used on Howrah-Raniganj section of the East Indian Railway for hauling light mail trains. It retired from the service in 1909. The engine was kept at Chandausi school before being shifted to the Museum in year 1971 on the eve of foundation laying stone ceremony of the Museum. On the inaugural day of the Museum, this locomotive was once again steamed up after lying idle for 68 long years and it was a spectacle to see this 'Queen' moving with an agility and grace that belied her venerable years but appropriate to her sparkling colours. Sharing her abode is the dissected Cadavar of an engine whose innards are exposed to view and which is used to explain to the visitors the functioning of a steam engine. This cut-out engine once upon a time used to haul the mail trains.

Treasure-Trove

Gathered around in the outdoor area are 'Queen's various descendants. The baby among them is the 'Rail Bus', that was converted from a 1932 petrol driven Dodge Bus and set to work on the steeply inclined 12.6 mile long Matheran Railway near Bombay. It has still got a steering wheel, quite intact inside, though it does not have any function on rails.

Another unusual little engine is the 116 year old 'Ramgotty', whose two chief features are its wooden brakes and the fact that it was built in Paris for a four-feet gauge that does not exist in India, causing it to be entirely remade.

Amazing Monorail

Perhaps the prize catch of the Museum is the picturesque 'Monorail', which constitutes one of the principal attractions of the Museum. This unusual exhibit once used to operate on a single rail system from Sirhind to Alampur and later to Morinda and partly between Patiala to Sunam, between the years 1902-1927 during the reign of Maharaja Bhupinder Singh of Patiala. The remnants of this once pompously driven system were found in the years 1970 abandoned in an obscure corner of a P.W.D. yard depot in Patiala city with the grass growing all around it. The past history of this exhibit is quite interesting. Around 1900 A.D., Col. Bowles, a young engineer with a British firm, who was then working on Bengal-Nagpur Railway construction at Kharagpur, successfully harnessed 560 odd idle mules in the stable of the Maharaja of Patiala to carriages which rolled on 15 miles of line of Monorail he specially laid for them.

The mule-trains carried 20,000 passengers a month each paying a fare of 1½ annas. The goods were carted at a rate of an anna a maund. After a few years, it was decided to have steampower available against the contingency of mules being withdrawn and four unique locomotives were obtained from Germany at Rs. 7000 each which worked till 1927. In this system, a single rail track bears 95 percent of the weight of the vehicle and is kept upright by a large wheel running on a pathway. Incredibly, railway engineers have refurnished the carriage and restored the ancient engine to working condition. On a payment of Rs. 75 and enough warning to Museum, a group can now go on what must surely be the strangest rides offered anywhere. Now it takes nearly two hours of Cajoling to get it steamed up and then it chugs along merrily halting for a drink of water every fifteen minutes (Pl. 89).

Garrat Engine

The Giant behemoth hulking over the pygmies is the 'Garrat' that weighs 235 tons and was the most powerful engine ever used in India. It was introduced in 1930 on the Bengal-Nagpur Railway on sections which are now a part of the Adra-Division of the South Eastern Railway and used to haul 2000 tonnes coal trains.

Rail-Car

Yet another fascinating exhibit is the four-wheeled 'Rail-car' fitted with a petrol engine. Gleaming white, it looks like a car moving on the railway track. It can accommodate four persons in its lowslung seats. The 'Rail car' was at one time used by the Inspecting Officials between Simla and Kalka.

MYS 507, another beautiful photogenic loco 'Decanville' preserved at the Museum, has been donated by Madras Engineer Group Centre, Bangalore, where it was being used for tranining purposes. This locomotive was built in 1902 by W.G. Bagnall of Stafford for the strategic 2′ 6″ gauge "Decanville" railways on the North West Frontier.

Saloons of Maharajas and Princes

The delightful little four-wheeler saloon in which the Prince of Wales (later King Edward VII) travelled, is still in the excellent condition and is exhibited in the Museum along with other interesting metre gauge exhibits. This saloon was built in 1875 at the Agra workshop of Rajputana-Malwa Railway. In 1876, the saloon was used by the Prince of Wales for his journeys on the metre gauge section when he came to attend the Calcutta *Durbar*. The coach is fitted with gas lights and depicts the high degree of comfort and craftsmanship provided for the British rulers of those early times. The outside of the coach is provided with beautiful broad weather shades lined on the brim with gold leaf. The Coat-of-Arms and other decorations are distinctive and artistic.

There is also a 'Viceregal Dining Saloon', which was part of the Viceroy's train. Having a seating capacity of 18, it has fine carved panelling inside.

Not all the Maharajas were equally singular. Most had tastes that were merely extravagant and these are demonstrated in the carriages of the Maharaja of Mysore and Gaekward of Baroda, luxuriously decorated and once used by Maharaja of Mysore. Mysore Maharaja Saloon was built in the year 1899 at Bangalore where the Mysore State Railway workshop was then situated, at a cost of Rs. 29,000. This saloon was part of a special vestibuled train of three coaches. The other two consisted of a saloon containing a bedroom, a lounge and a prayer room for the use of the Maharani, and a dining-cum-kitchen car for the royal family. The fastidious Maharaja used to travel in a special train to avoid pollution and bathed to remove pollution after receiving foreigners, even the high dignitaries like the British Resident. The coach with its magnificient furnishing and fittings is made of the best seasoned teak wood and ceiling painted with a floral design lined in gold and ivory. The unique thing about this particular saloon is that it was designed to convert from being run on metre gauge to broad gauge, without disturbing the 'Royal Sleep', by lifting the saloon up bodily and changing the fittings.

Recent Acquisitions

The Museum's very recent acquisitions are : a broad gauge Central Railway 'Motor-Trolley' built in the Parel Workshop in 1963 having a Royal Enfield engine and a 4-wheeler wooden 'Sheep Van' introduced on the Bengal-Nagpur Railway in 1890s. Two-tiered and equipped with a drinking water trough for each of the four cubicles in a compartment, the van was used for transporting sheep from villages to the metropolitan city of Calcutta. A number of other railway items of museological interest like old dresses, station-lamps, old benches of the KSR/Oudh Rohilkhund Railway, crockery, old lamp posts located during the course of tours of the officials of the Railways, would also be arriving at the Museum shortly, and the desperate hunt for old rolling stock continues.

The Rail Transport Museum in just over a year has become a place which draws steam and railway enthusiastic groups from abroad. In February, 1977, the 'Rail Preservation Society of Ireland' visited India to give some of their members a quick look at a land where the steam still rules albeit in reduced circumstances and made a programme to see the Museum. The I.D.A. team of the World Bank, the Vietnam team and Nigerian Transport Commission which visited the Museum, had high praise for it.

In April, 1978, special exhibition "Indian Railways : 125 Years of Service to Nation" was inaugurated at the Rail Transport Museum by Prime Minister, Mr. Morarji Desai, to mark the completion of 125 years of the Indian Railways.

It will be a sheer injustice to conclude this article if it is not brought on record that the Museum is the outcome of a handful of dedicated individuals of the Rail Museum who have laboured hard in piecing together the glorious past of the Indian Railways in the form of this Museum, under the guidance of Mr. M.G. Satow, Hony. Adviser to the Museum and a great lover of locomotives.

Suggested Reading

1. Alfonso, E., Concept of Railway museums and the international symposium on the place of museums in the modern world, *ICOM News*, Vol. 26, No. 2, Paris, 1973, pp. 75-76.

31

NOTE ON TWO IMAGES IN THE COLLECTION OF S.K. SARASWATI

DEBALA MITRA

Professor S.K. Saraswati received these two images[1] as presents from the late Beni Madhab Barua who hailed from Pahartali, close to Chittagong town (Bangladesh) and was the Professor of Pali, University of Calcutta. These images bear a close affinity to some of the images from Jhewari, District Chittagong (*e.g.*, Indian Museum Accession nos. 8179/A 24347, 8183/A 24313, 8185/A 24346, 8186/A 24319 and 8187/A 24321) in art-form, style and workmanship. Obviously, both these groups of images of almost identical style originated from the same area of District Chittagong, if not from the same centre of bronze-casting. These two images which have already been published in an article entitled 'Two Syncretistic Icons'[2] by Pratapaditya Pal are described below.

(*i*) Image of Avalokiteśvara and Tārā

This image (Pl. 90), 11.5 cm. high, has two somewhat coarsely-modelled figures-one of a six-armed male and the other of a two-armed female. Pratapaditya Pal has identified the two figures with Śiva-Mañjuśrī (synthesis between Śiva in his *dakshiṇāmūrti* and the Buddhist god Mañjuśrī') and Sarasvatī. However, a close scrutiny of the image tends to lead one in favour of their identification with Avalokiteśvara and Tārā, though I have not been able to cite any textual prescription to support the identification. Stylistically, the image is ascribable to the eleventh century A.D.

The two figures, of almost the same height, are seated side by side in the *vajra-paryankāsana* attitude on a common lotus with a single row of petals and tops of stamens stylized into a beaded line. The background (with curved top corners) behind them has a moulded border edged by a beaded line. Fixed to the inner side of the hollow lotus-seat are two tiny inscribed discs, presumably, with the Buddhist creed. The three-eyed and six-armed male figure with auspicious lines round the neck is clothed in an *antarīya* with a portion of the frill spread on the seat in the form of a fan. He is adorned with *valayas* (one around each), armlets with a flower-shaped (two petals alone represented) central piece, a *hāra* with a similar central piece, ear-studs, an *upavīta* and a short *mukuṭa* with three triangular projections decorated with the motifs of half-flowers and *maṇis*. Leaving a few coiled locks falling on shoulders, the hair is arrayed in a high *jaṭā-mukuṭa*. Above the central projection of the *mukuṭa* is the Dhyāni-Buddha Amitābha; the head of the figure is crudely fashioned. On either side of the head is the fan-shaped end of a ribbon. Of the six hands, the lowest two palms are placed on the soles of the feet in the *dhyāna-mudrā* or *samādhi-mudrā*. Placed against his right knee is the middle right palm, in the *vara-mudrā*; on the palm rests a *maṇi*. The top right hand holds a rosary. Of the two remaining left hands of the figure, the lower one holds the stalk of a lotus and the upper a manuscript (*pustaka*). Dressed and bejewelled like the male figure is the two-armed female figure (with a cross-marked navel) wearing a *śāṭī* fastened by a girdle with disc-shaped ornaments. The short *mukuṭa* has a jewel, but not the half-flowers. The coiffure is elaborately done and there are several fan-shaped ends of ribbons fluttering above the *mukuṭa*. The right palm of the goddess, resting against knee, is in the *vara-mudrā*. It bears jewels. The left palm holds the stalk of an *utpala* supporting an object having the appearance of an oblong four-petalled flower. This object is apparently intended for a manuscript, though the representation is rather unusual; the string tying the manuscript is crossed and the knot is shown by a roundel.

The six-armed figure, no doubt, represents a form of Avalokiteśvara, though we have not been able to produce any literary support for such a form. However, the attributes can be connected with Avalokiteśvara in his varied forms. The third eye is not an unusual feature for Avalokiteśvara, as this is found in many images of this Bodhisattva in one form or the other, and the *sādhanas* of some of the forms of Avalokiteśvara (like Siṁhanāda, Hālāhala, Trailokyavaśaṇkara and Māyājālakrama) specifically enjoin *tri-netra* (three eyes). The lotus, rosary and the *vara-mudrā* are very common attributes of many forms of this Bodhisattva and there are textual prescriptions for the jewel (*ratna* or *maṇi*) in the hand of some of the forms (*e.g.*, Pretasantarpita and Māyājālakrama). There are many images of Avalokiteśvara holding a book which is again prescribed in the *sādhanas* for Pretasantarpita and Amoghapāśa forms of this Bodhisattva. Even the *samādhi-mudrā* is associated with Avalokiteśvara, the typical *mudrā* of whose spiritual sire Amitābha is the *samādhi-mudrā*. The *Sādhanamālā* prescribed this very *mudrā* for Nīlakaṇtha. Among the one hundred and eight forms of Avalokiteśvara found in the Machhandar Vahal (at Kathmandu, Nepal) Vaśyādhikāra-Lokeśvara and Nīlakaṇtha, both holding a bowl, are in this *mudrā*. In fact, from an illustration of Buddhrupaka-Lokanātha of Mahāchīna illustrated in the Cambridge University Library manuscript[3] (no. Add. 1643) it is seen that this particular form of Avalokiteśvara is two-armed, white in complexion, seated in the *vajra-paryaṇkāsana* attitude in the *samādhi-mudrā*.

In view of the male figure being a form of Avalokiteśvara, the companion female would represent Tārā and not Sarasvatī. The typical attributes of Tārā in her two-armed form are the *vara-mudrā* and the *utpala*. The existence of a manuscript on the *utpala* should not stand in the way of the identification of the figure with Tārā. In fact, all the three attributes (*vara-mudrā*, *utpala* and *pustaka*) are enjoined to be in three hands of the four-armed Dhanada-Tārā,[4] the object in the fourth hand being a rosary. It is not unlikely that this figure represents a variant form of Dhanada-Tārā, as it bears, apart from the three attributes, jewels (*ratna*) in the right palm.

(*ii*) *Image of Chundā*

The second image (Pl. 91), 9.5 cm. high, has been identified by Pratapaditya Pal with Sarasvatī and the *śakti* of the six-armed figure (identified by him as Śiva-Mañjuśrī) of the first image. This image, analogous to the preceding in art-form and style and ascribable to the eleventh century A.D., most probably represents Chundā, though a bowl (*pātra*) is not represented on the palms in the *samādhi-mudrā*.

The three-eyed and six-armed goddess with open eyes and auspicious lines round the neck, is seated in the *vajra-paryaṇkāsana* attitude on the pericarp of a lotus with a single row of petals and tops of stamens stylized into a beaded line. She is wearing a *śāṭī*, *valayas* (one around each wrist), armlets with a flower-shaped (two petals represented) central piece, an *upavīta* of two strings, a short *hāra* with a flower-shaped central piece, flower-shaped ear-ornaments and a *mukuṭa* with three triangular projections. With a few coiled locks falling on shoulders, the hair is done in a high *jaṭā-mukuṭa*. The horseshoe-shaped halo (top missing) behind the goddess has a border of two mouldings with a creeper-like wavy line between the mouldings; it is edged by a beaded line. Of the six arms of the goddess, the lowest two palms in the *samādhi-mudrā*, are above the soles of the feet. The middle right palm, in the *vara-mudrā*, bears jewels, while the top right palm holds a rosary. In the middle left palm is a *kuṇḍī* with an oval body. The upper left palm bears a manuscript, the upper surface of which presents the appearance of a flower due to the stylized representation of the fastening of the cord. The back side of the image presents two roughly lenticular depressions along the central line. Possibly along them passed the stick of the umbrella.

References

1. Professor S.K. Saraswati has kindly permitted me not only to examine the images but also to publish the photographs which have been taken by the Archaeological Survey of India.
2. *J.N. Banerjee Volume*, Calcutta, 1960, pp. 226-35.
3. Foucher, A. *Etude sur l'Iconographie Bouddhique de l'Inde d'apres des documents nouveaux*, Paris, 1900, p. 195 (no. 31).
4. Bhattacharyya, Benoytosh *The Indian Buddhist Iconography* Calcutta, 1958, p. 231.

32

THE MOTIF ON THE FACADE OF THE VISVAKARMA TEMPLE AT ELLORA

R. SENGUPTA

The singular treatment of the facade of the Viśvakarmā *chaitya*-hall (Cave X), the only apsidal shrine at Ellora and one the latest of its kind in India, has been commented upon by many. The general assessment is that the central motif, unlike the usual *chaitya*-window, dwindled into a meaningless form of a trefoil. Among the scholars, Percy Brown says "Hitherto the great sun-window had been an important constituent attribute of the Buddhist *chaitya* hall exterior from time immemorial, the horse-shoe arch over the entrance meaning something more than an architectural motif, it was an emblem of deep traditional significance. In the facade of Viśvakarmā, it is true, some recollection of this experience still lingers, but the result is reduced and transformed until it becomes meaningless"[1]. S.K. Saraswati, discussing the motif, suggests that the 'transformation is probably a foretaste of what is destined to come soon' and attributes it to the 'popularity and preference of image worship over the *chaitya*[2]'.

Thus while laying stress on the religious significance of the motif for its long association with the hall of congregation, its architectural import was lost sight of. Leaving alone the religious significance for a while, if the motif is viewed in its proper utiliterian perspective it will be evident that the change in the form is neither fanciful nor meaningless but a positive contribution to the rational development of an aspect of Indian architecture. The considerations in support of the view are detailed in this paper.

It may not be out of place here to say a few words about the word *chaitya*. The definition of the word given by Agrawala as '......sepulchral monument generally made of earth on the site of the funeral pyre (*chityā*) owing to which it was also known as a *chitya*'[3], does not agree with archaeological evidences. Inscribed sculptured scenes on early monuments show that a sepulchral monument was different from a *chaitya*, as a tree was called *vriksha-chaitya* and in the *chapala-chatiya* on an Amaravati sculpture, the object of worship was *Buddha-pada*. From these facts and considering the earlier practice of worship of an alter or *chiti*, as described in the *Sulva-sūtra*, the explanations of Coomaraswamy [4] and Kramrisch[5] appear to be correct. The latter very clearly puts it that the '*chaitya* is derived from *cīti*'. But as the *stupa* was also an object of worship, in course of time, *chaitya* became synonymous to *stupa*.

Thus the object of worship, a shrine, be it a tree, a *Buddha-pada*, a tablet or an altar has been called a *chaitya*. Epigraphical records show that the practice of altar worship appears to have been uniformly adopted by the Jainas also, though it was the custom introduced by the Brahmans. In the Ghosundi inscription of the Bhagavatas, the object of worship was a tablet, *pūjā-śilā*. At Mathura, even as late as in the Kushan period, a courtezan Vasu erected a *devakula*, an *ayaga-sabhā* as also a *śīla-paṭa* in the sanctuary of the Arhats[6]. The framed aperture provided on the sides of the roof of a shrine, for light and ventilation, came to be called as a *chaitya*—motif or window; there was no religious import or symbolism attached to it and the motif was freely used in the Brahmanical and the Jaina shrines as the Buddhists did.

The constructional method of the roof of the apsidal shrines of early historical period in India were conditioned by the plan which was dominated by a wide nave flanked by aisles to admit of congregational assembly, etc.. The covering material, as depicted in the rock-cut shrines, was mostly wood, according to the traditional usage, and the shape of the roof was either gabled or vaulted. The latter, fashioned after the traditional top cover of the bullock-cart, known as *balabhi*, was advantageous for two reasons : one being the height gained for a lofty ceiling to accommodate the *stupa* on a high pedestal and the other to be suggestive of spaciousness. The development of the roof of the apsidal shrines in particular and the lithic derivatives of wooden constructions in general may be viewed against this background.

The antiquity of apsidal structures in India can now be traced to the Chalcolithic period in the Deccan, as revealed by the recent archaeological excavations. From the reportedly sacrificial objects recovered from inside these mud-brick remains, the excavators infer their association with religious use. Although two tiles have been found at site, their use on apsidal structures as roofing material is a matter of conjecture. Outside India, in Phoenicia '...the plan of a chalcolithic house is semi-circular or apsidal, very much like modern horse-shoe. It was built of rectangular bricks made in moulds and it was roofed with animal skins placed over wooden rafters, which rested at one end on a pole set up in the middle of the room'. The contemporary Indian apsidal structures could have such an arrangement and covered either with the terracotta tiles, the wooden planks or by the straw.

The fact that even in the earlier constructions the forces of stress and strain, which normally come into play on structures, were taken into account is manifest from the earlier structural representations. For, to counter-act the lateral thrust arising out of the compression, the pillars were placed well inside the roof supporting the rafters at a height and, as an additional measure, the caves of rafters were also anchored to the pillars, often raked.[7] The other way of achieving similar results was by providing tie-beams[8] (couple-close). Whether the roof was gabled or vaulted, considering the span and the superimposed weight, the load-bearing members were required to be of heavy section and often unwieldy, if not entailing difficulty in procurement at times. To overcome such obvious difficulties and to keep the size of the rafters moderate and easy of handling, eventually struts were introduced on beams as reinforcements to prop up the rafters. In the case of a vaulted roof the new system afforded further opportunities to resolve the roof vertically into two tiers and thereby facilitate to shorten the length of rafters utilizing the ends of the upper tie-beams as the meeting place for the upper and lower rafters. Again, the distribution of load changed and a greater stress was laid on the main beam. This arrangement has been called by Cousens, in the absence of a suitable nomenclature, as a 'pseudo queen-post truss'. This roof-truss was indeed a logical development and revolutionized the technique of roof-building in wooden frame. Such a truss can also be seen sculptured on the outer face of the north wall of the Chalukya temple, of Surali or Suvali at Badami and in the Vakataka paintings at Ajanta.

Reproductions of wooden architecture in rock in Egypt and Persia are well known. But less known are Lycians at Mura and Pinara in Asia Minor datable to *circa* 400 B.C. Like the Lomas Rishi caves at Barabar hills in Bihar, the gabled end of the wooden roof has been carved out. The roof is shown (Pl. 93) as supported by a pesudo-queen truss. The particular type of the roof-truss could have been developed independently, as the plan of the tumulus in the shape of a spoked wheel was developed. In the case of a tumulus there was no religious bais as the Buddhists had; at Nagarjunakonda and elsewhere *stupas* had spoked-wheel shape which made the *stupa* structurally sound and durable, as the outward thrust of the filled-in material was minimized. Similarly, in the gabled wooden roof and its developed forms no religious significance need be attached; structural form took a natural course of development according to the nature of the material and the manner in which it was used.

The arrangement of various members in the central motif on the facade (Pl. 92) of the Viśvakarmā *chaitya*-hall at Ellora, in fact, depicts the ornamental piece of a burge-board covering the front of a gabled roof-truss over the forepart, although in the interior the traditional curved or vaulted ceiling was retained. The four post-plates A, B, D, E, and the ridge-plate C, required in such a construction, were allowed to project sufficiently out to receive the ornamental front, to secure which in position, the projecting ends were nailed across with lynch-pins.

The gabled roof truss shows some interesting features. From the placing of the post-plates and the dentils at the bottom, the truss resolves into a triangle. The two post-plates at B and D mark the centre of the sloped roof, the base is divided into eight parts by the dentils. The post-plates suggest that the loading system is uniformly distributed on a simple truss and working out the resultant forces, it appears that the supporting pillars are put at the proper places to take the load. Each dentil may support a vertical prop as also an inclined strut to meet a post-plate. The drawing of the truss (Pl. 94) will make the intended arrangement clear. The drawing of a common truss is for a comparison with the ancient system as to what further improvement, if any, could be made during the thirteen hundred years. There is not any, at least in this form of the truss. Thus the Indian artisans of the 7th century, A.D. were well aware of the various types of stresses acting on members in wooden constructions and could confidently take counter measures to neutralize and distribute the load. Unfortunately this remarkable engineering achievement was overlooked so far, due to the subjective study of the object.

To the former type of vaulted roof belong those on the temples of Navadurga and Pustidevī at Jāgeshwar (*circa* 9th cent. A.D.) in Almora (U.P.). In these stone temples the roof very faithfully imitates in details the wooden roof-boards placed horizontally on the curvilinear rafters and are good examples of what the Ellora architect visualised and represented through the motif. An earlier example of the type may be traced to *circa* 3rd cent A.D. in a stone sculpture from Gāyatrī Tīlā, Mathura. Though the arrangement of the roof-frame is not known; it may not be very different from that as given on the Ellora temple. Later developments of this type of roof are to be seen on the Vaitaldeul at Bhubaneshwar, Télī-kā-gana at Gwalior, etc.

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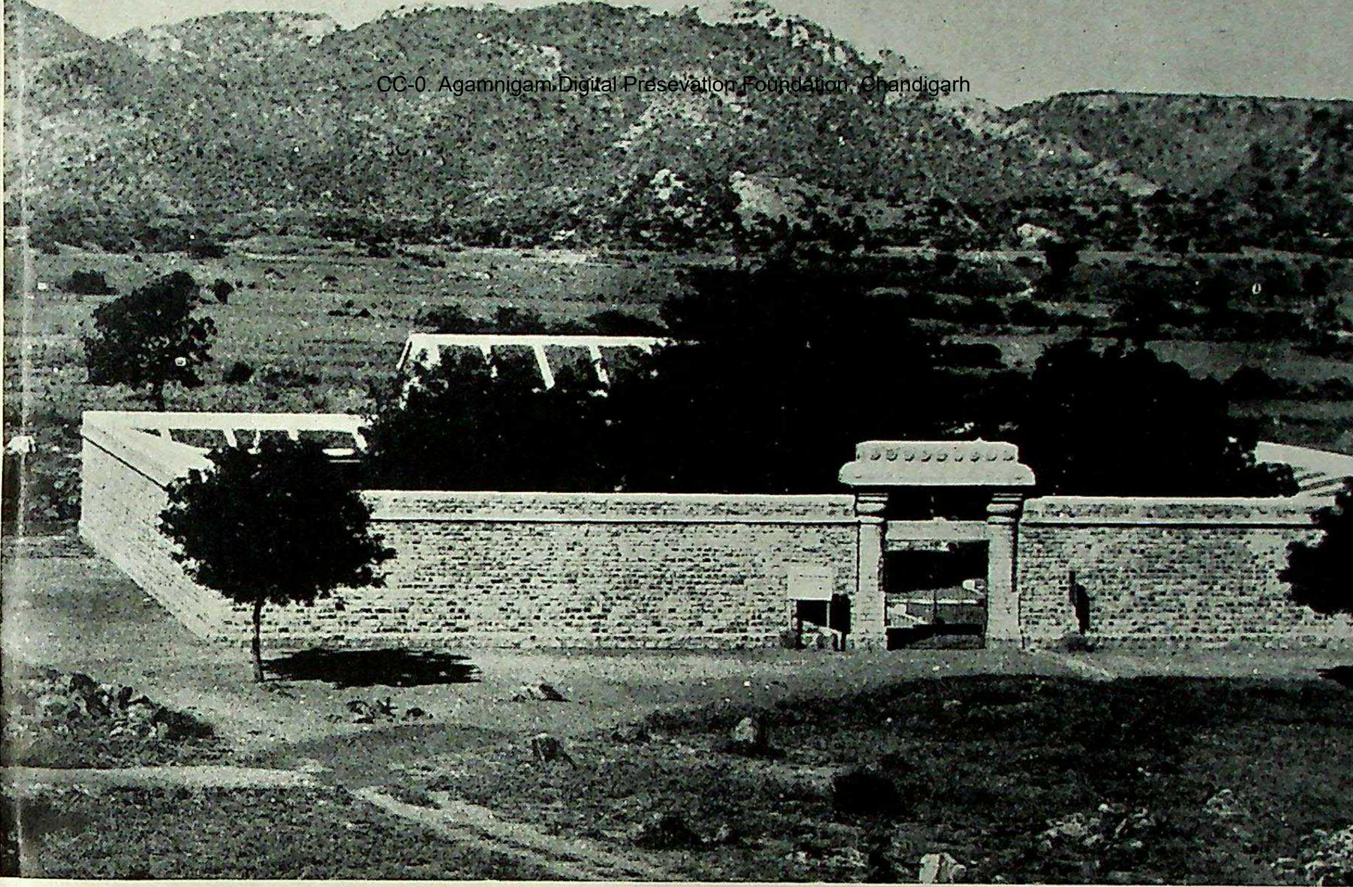
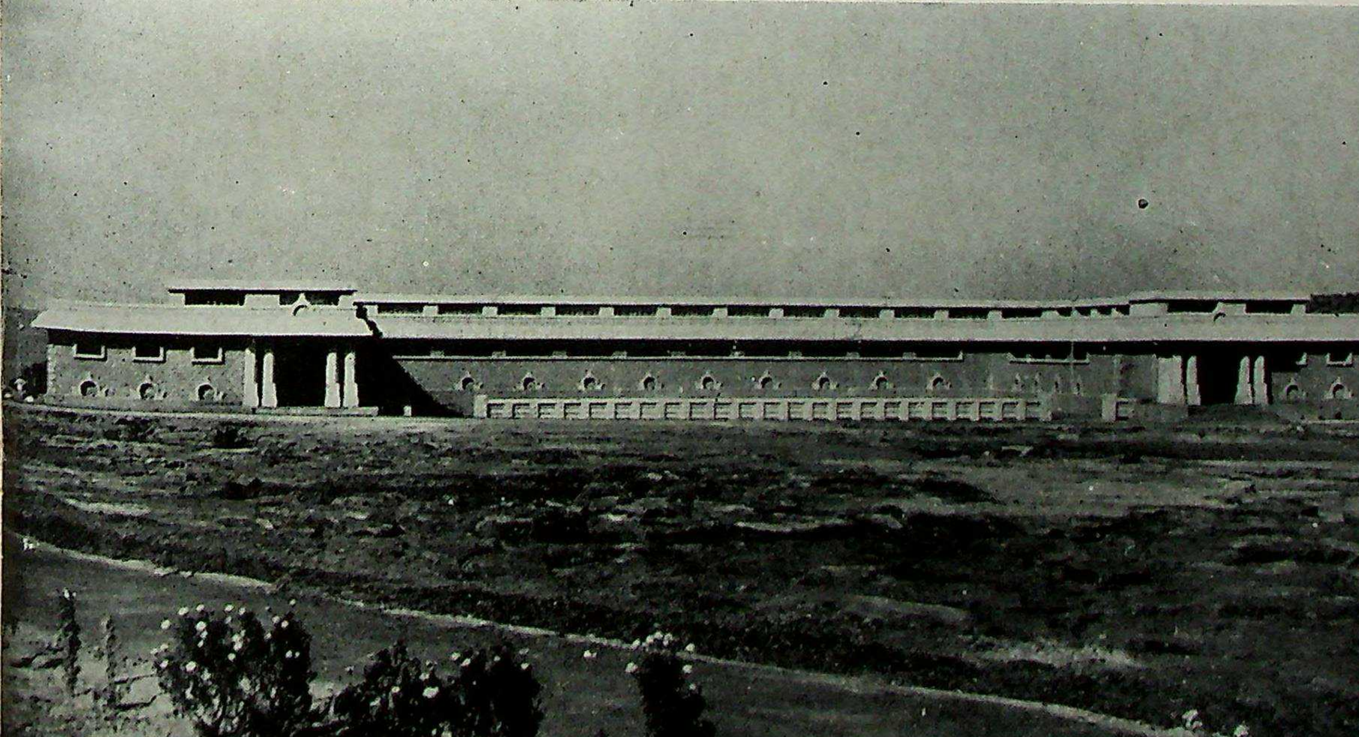


Plate 84 : View of the old Museum building before the construction of the Nagarjuna Sagar Dam, Nagarjunakonda (*courtesy* : A.S.I., Museum Branch, Calcutta).

Plate 85 : View of the newly constructed Museum building on the hill top, Nagarjunakonda (*courtesy* : A.S.I , Museum Branch, Calcutta).



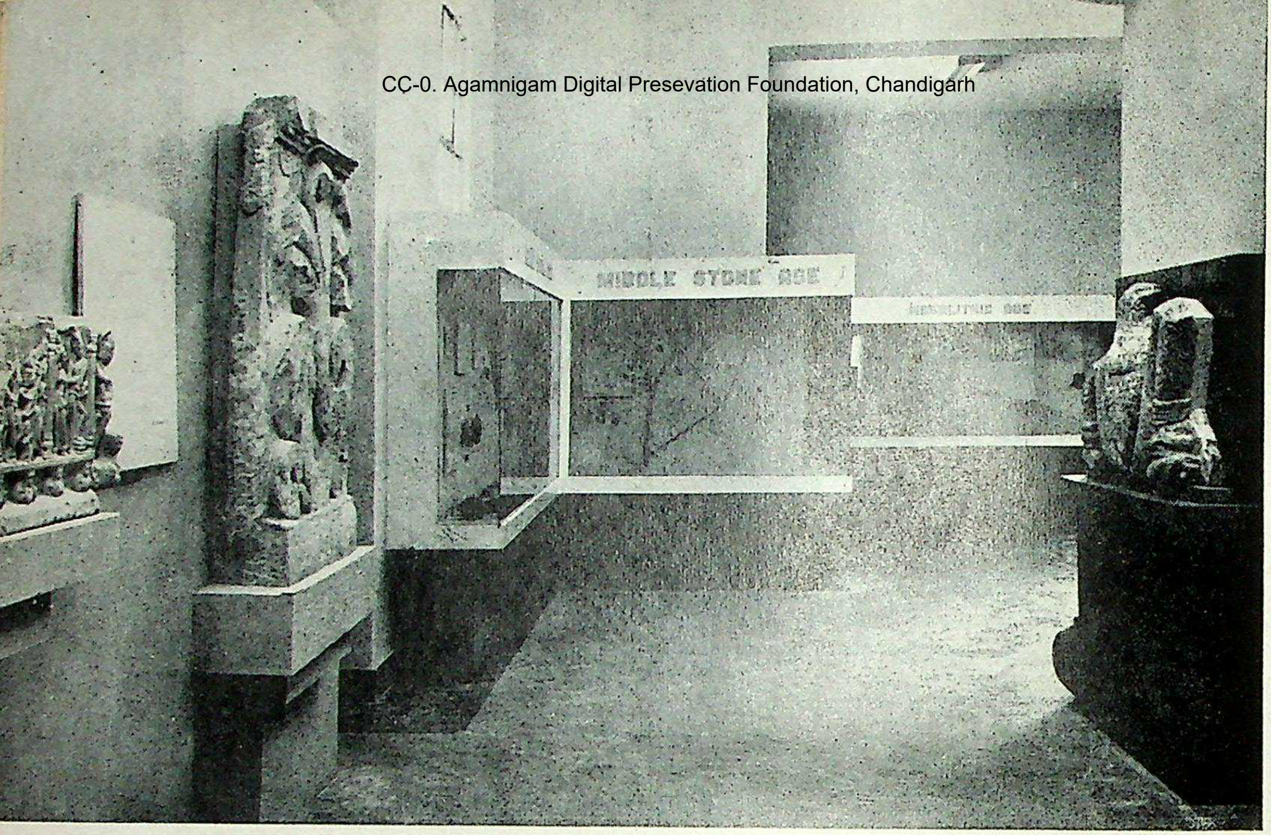
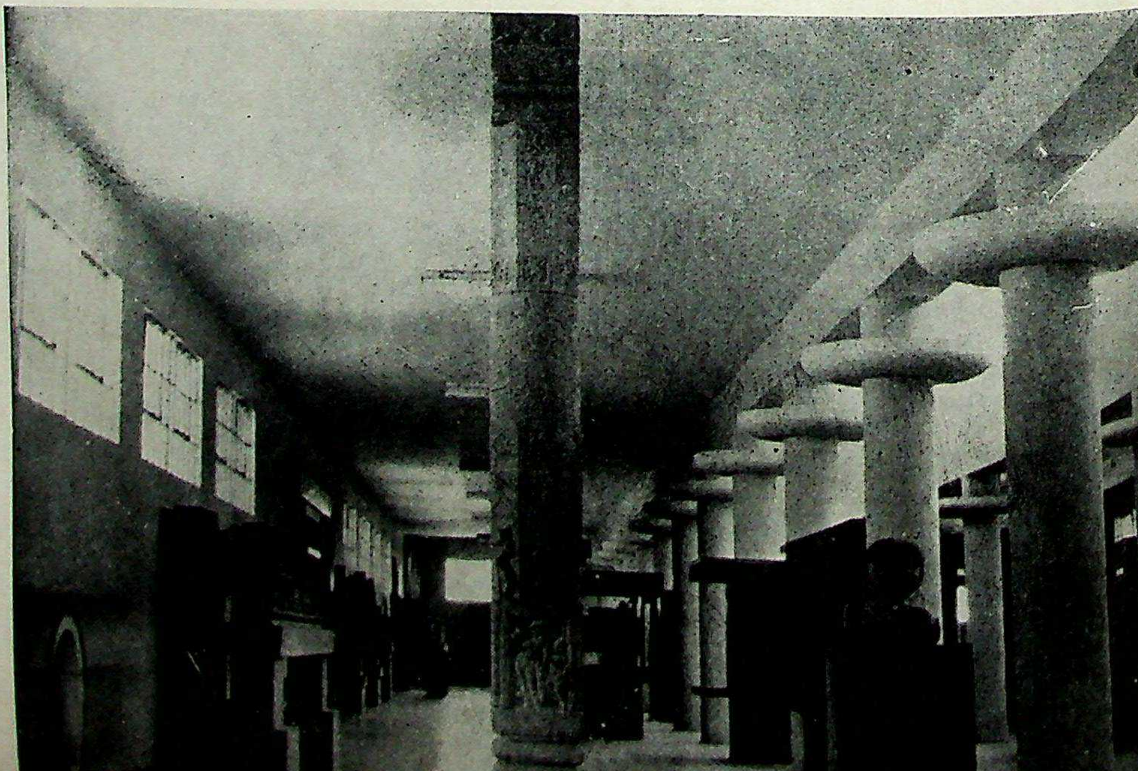


Plate 86 : A close-up view of the entrance hall showing Stone Age and other cultures, Archaeological Museum, Nagarjunakonda (*courtesy* : A.S.I., Museum Branch, Calcutta).

Plate 87 : A view of the main gallery of the Archaeological Museum, Nagarjunakonda, taken from the west. (*courtesy* : A.S.I., Museum Branch, Calcutta).



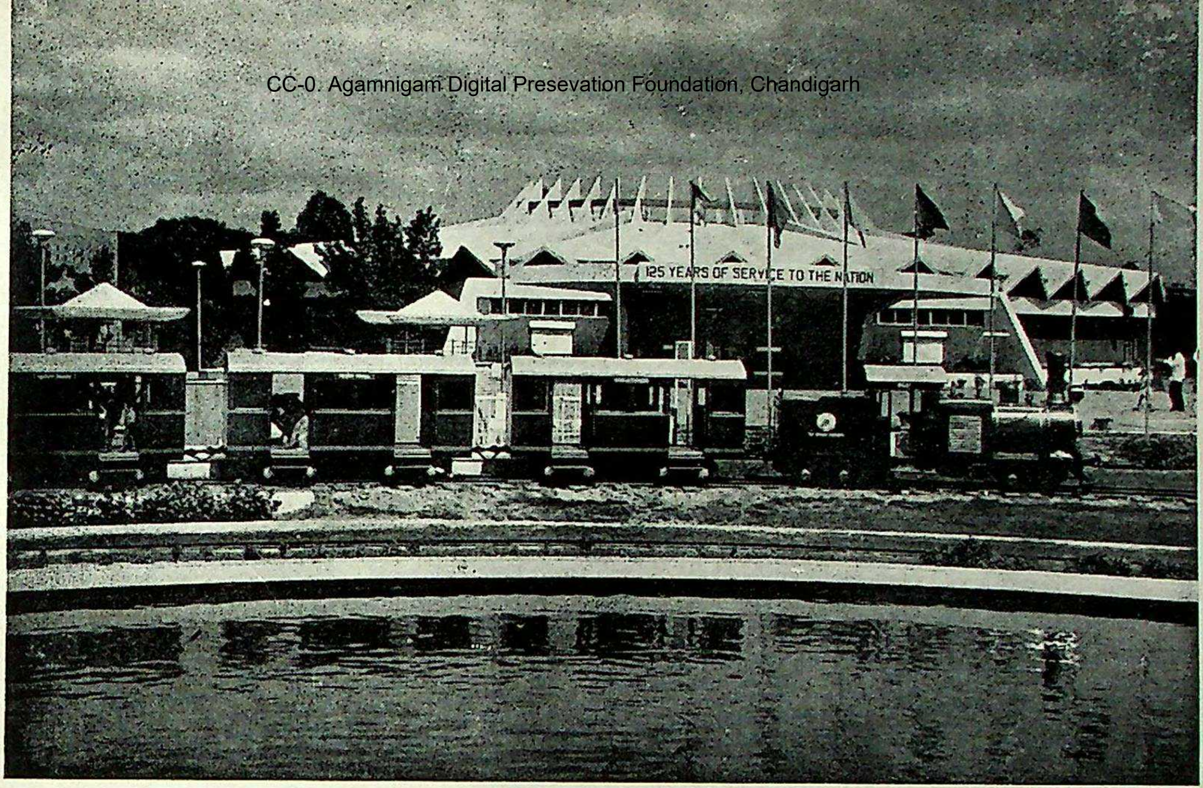
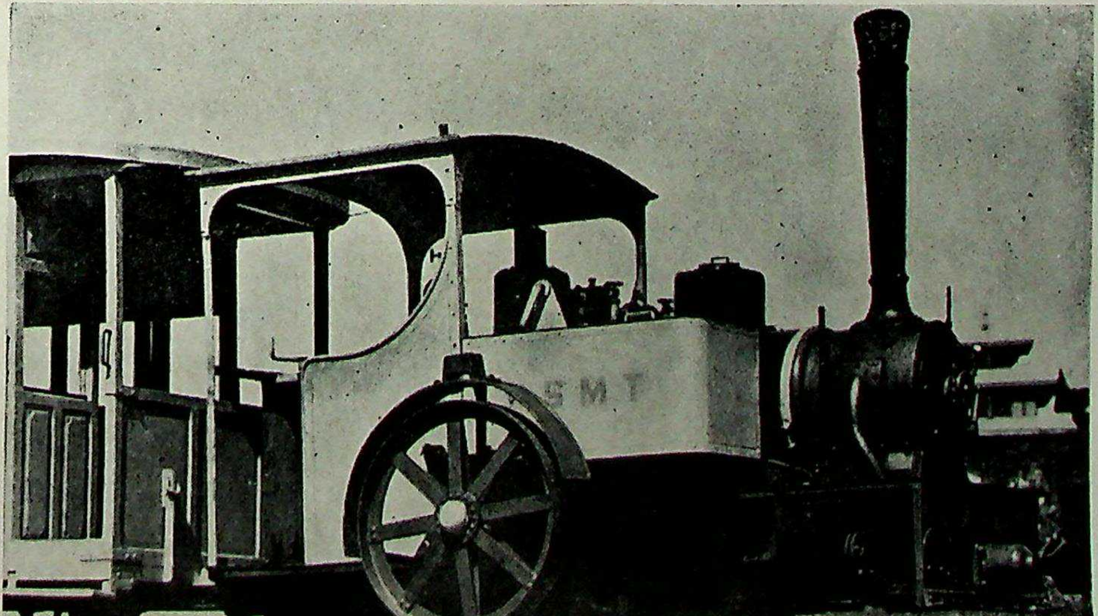

125 YEARS OF SERVICE TO THE NATION

Plate 88 : A view of the Rail Transport Museum showing the main exhibition pavilion and the mini rail for children's joy ride (*courtesy* : Rail Transport Museum, New Delhi).

Plate 89 : The unique Patiala Monorail engine with a coach. (*courtesy* : Rail Transport Museum, New Delhi).



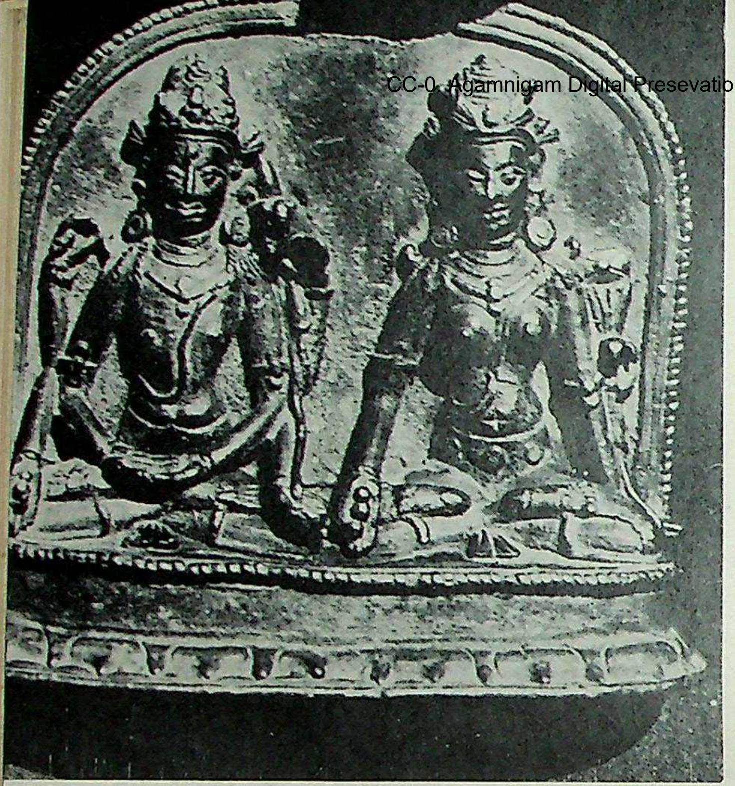


Plate 90 : Avalokitśvara and Tārā, Bronze, East Bengal, c. 11 cent. A.D. (*courtesy* : Prof. S.K. Saraswati, Calcutta).

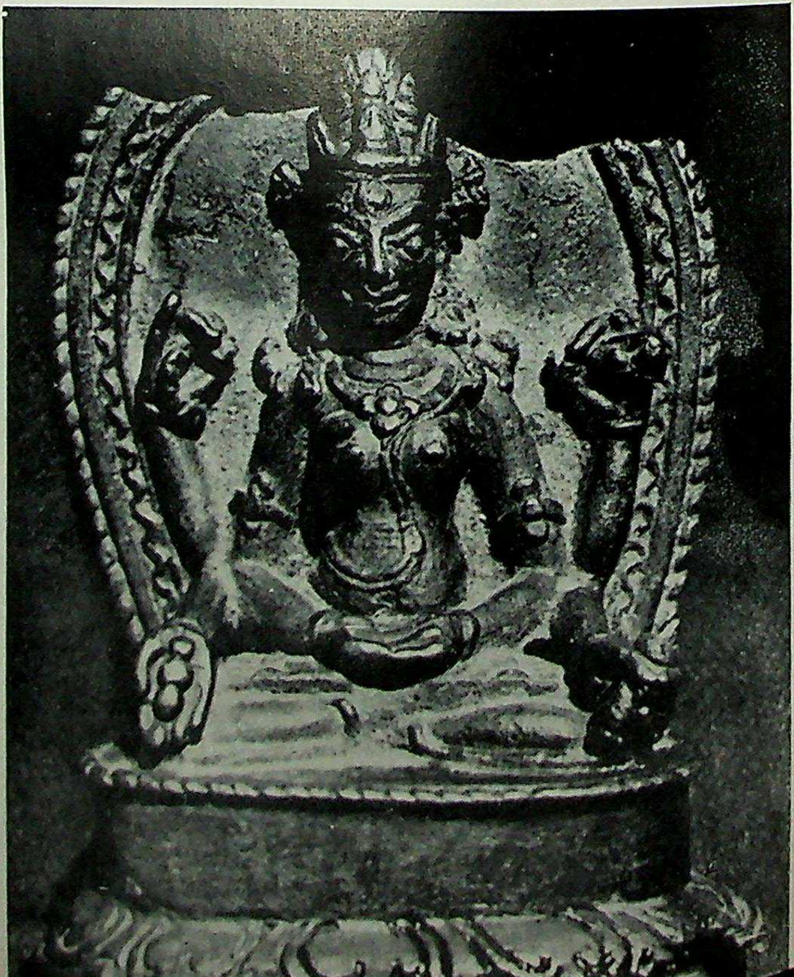


Plate 91 : Chundā, Bronze, East Bengal, c. 11th cent. A.D. (*courtesy* : Prof. S.K. Saraswati, Calcutta).

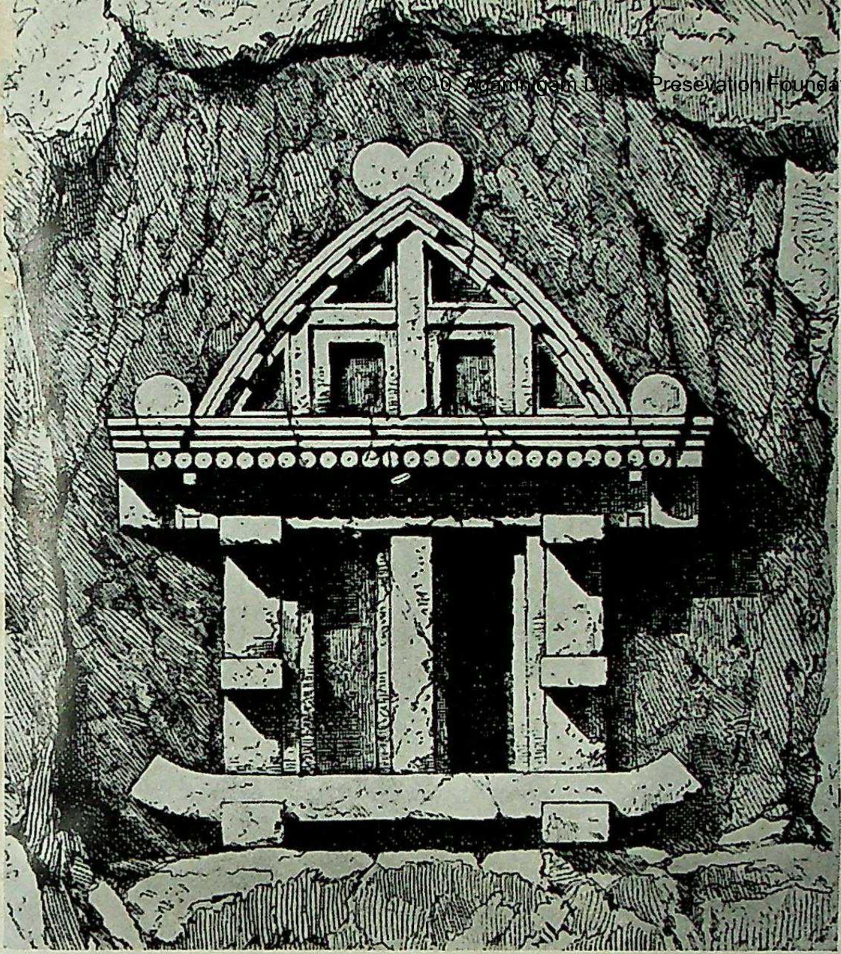
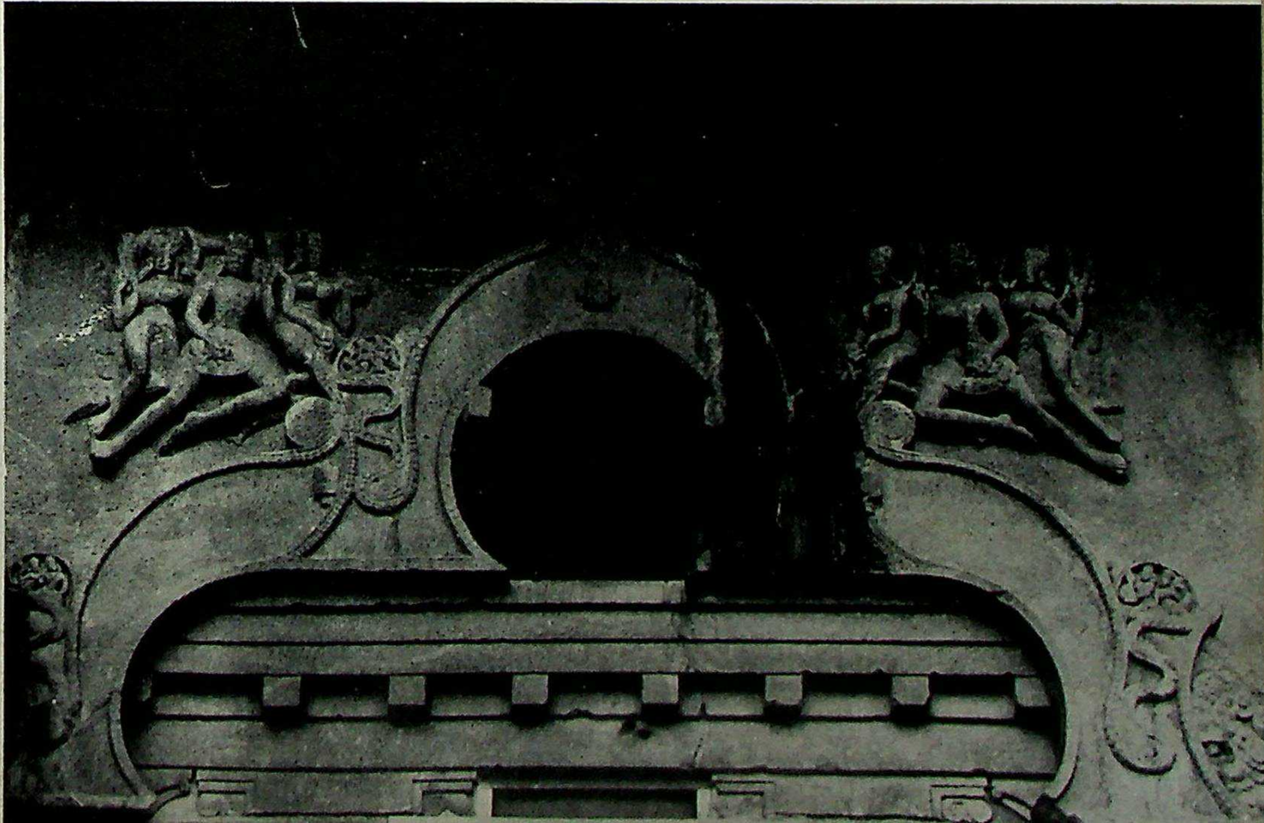


Plate 93 : The roof as supported by a pseudo-queen truss.

Plate 92 : The facade of the Vishvakarma cave at Ellora.



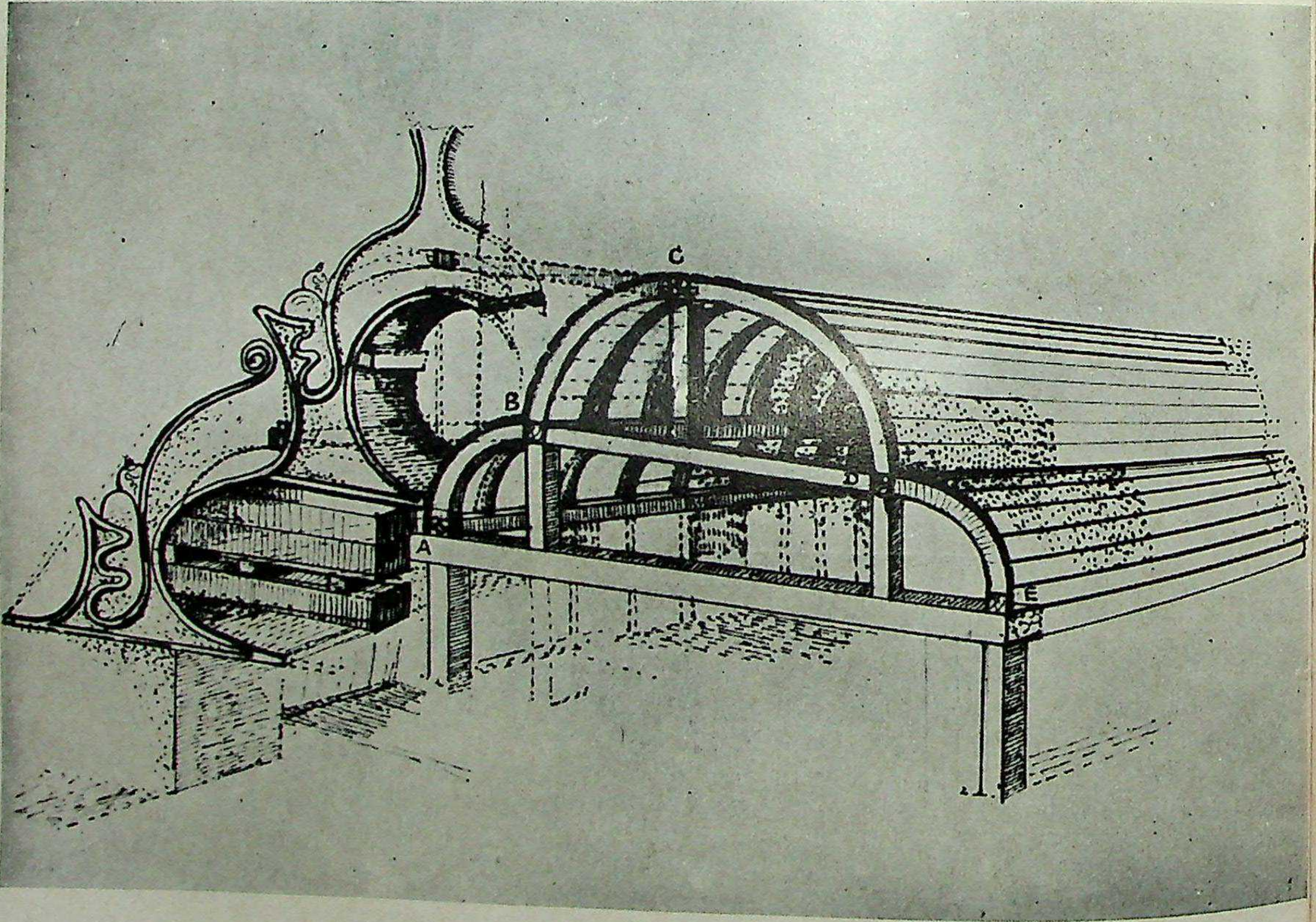


Plate 94 : Drawing of the truss showing the cross-section.

PART VII

General Museology

33

GALLERIES OF CONTEMPORARY ARTS IN INDIA

RATAN PARIMOO

We in India have to pay particular attention at various administrative levels for establishing museums of contemporary art. There was a time when we were not aware of our own brilliant cultural heritage especially in the area of visual arts. But our museum movement has a long history and now we can boast of many museums with strong art sections or those entirely devoted to the visual arts and crafts. Since our discovery of our past history includes a vast range of document in the form of art objects, paintings, sculptures, etc., and since it was a parallel phenomenon with the rise of nationalism, the emphasis has continued to be on the art of the past, that is, something that was "ancient", that could be labelled as "antiquity" only could have the respectability to become part of a museum collection.

The museums, their directors and the policy makers, have been caught unaware, since the present century has also witnessed not only a revival of the visual arts in our country but also a new vision and range of creative activity. Since it was overtly "anti-traditional", supposedly revolutionary, and aligned with the modern phenemenon in the visual arts in the Western countries, many in India have been bewildered by this activity, some even fearing that it would lead to the destruction of the traditional culture. Ananda Coomaraswamy was suspicious of all modernity, especially in the arts.

After independence at the central and state government level gradually there has been the acceptance of the responsibility to encourage contemporary art practice which has resulted in the formation of Central and State Lalit Kala Akadamis with budget allocations for holding exhibitions of contemporary arts, to award prizes as well as to purchase selected works of the artists. The comtemporary arts have also been benefitted by the policy of reproducing paintings in Government-produced diaries and annual calenders which find their way into peoples' homes and are looked at and talked about. Some states have large purchase grants and even museums display primarily sculptures, paintings, and prints by contemporary artists, dead or living. Of course, the topmost of such museums in the country is the National Gallery of Modern Art in New Delhi (Pl. 95).

The first examples of museum collections and acquisitions of contemporary art were those of the Bengal school as at Indian Museum, Calcutta, but this had resulted in such rigidity that until recent times the only qualification for a twentieth century Indian art object to be acquired by a museum was that either it is a work in the Bengal School Style or that of a deceased artist. It is also ironical that certain museums have stopped purchasing works of contemporary art so that the most recent works of art they own are by themselves half a century old.

State Lalit Kala Akademis have come out in a big way to purchase works of living artists including younger ones. But the manner of their selection is lopsided. Purchase committees often do not consist of competent persons so that it is rare that the works of quality and merit are purchased. Even here the criteria is that the works should be those of artists older in age, or his style is more appealing to popular taste and of course, he should be belonging to that linguistic region. It is forgotten that not every state can boast of many talented artists. Thus many states have spent thousands of rupees in this manner over the years. Some of them have no proper gallery to display the paintings and sculptures thus purchased, which are dumped in uncared for and uncongenial storages. Even when such purchases are made in collaboration with a state museum, the museum has no interest or necessary space to display them. In rare cases if the museum puts them on display their quality is questionable, some paintings and sculptures are so hedious that they do not deserve to be considered works of art. Public money spent in this manner, ostensibly for encouraging the art and the artists and to bring the art closer to the people at large, is really a national waste because the objectives are least fulfilled.

Probably the National Gallery of Modern Art, New Delhi, is an exception which has gradually emerged as a repository of what is best and most representative. It has a policy of continuous acquisition, besides it has been holding comprehensive one-man-shows of some of our mature artists. But one such gallery is not enough in a country of sixty crore inhabitants. A big metropolis like Bombay, which can claim virtually to be the home of modern movement in visual arts in India, does not have such a contemporary art gallery. The Tata Institute of Fundamental Research in Bombay has a fine collection of modern Indian art due to the personal interest of its late brilliant director, but it is not organized as a museum. Calcutta has been another active centre of creative artists during the present century but does not possess a collection of modern art housed in a public gallery. Under such circumstances it is rather unique that there happens to be a University Museum at Chandigarh which has over the years also acquired a comprehensive collection of contemporary Indian artists. This is a pointer as to how effective the presence of a museum of contemporary art can be within an educational centre where thousands of young minds congregate and work.

There must be established at least half a dozen galleries of contemporary art in our country with a policy of acquisition of twentieth century manifestiation of creative activity in the visual arts of our country. The emphasis has to be on the comprehensive coverage of different generations and trends using historical and critical judgement. Here the aim should not be of distribution of money to the poor artists but an attempt to salvage and preserve for future the best that our century has produced, and acquire for the country what would truly be regarded as national treasures. Such responsibility cannot be left with arbitrarily appointed selection committees. The selection of works is itself an opportunity to educate oneself in the mystery of creative activity and in the difficult task of judging art. For when these are placed before public, it is with the view of indirectly hint to them that this is the best, try to see if you can enjoy it, respond to it. Therefore, it is a shame for all concerned if the trash is given the honour of being on the museum walls as national treasure. Let there be no complascency or half-heartedness by spending the precious little money, for the sake of spending, just because it is allocated. The galleries of contemporary art carry heavy responsibilities on their shoulders and they will result in the utter failure if they do not become agencies to cultivate taste and better judgement among the people (Pl. 96).

The lack of constant exhibitions of visual arts, the dearth of exhibition galleries for display, the public apathy that they can "live "and" do" without the arts, the minimum opportunities for exposure of the public to confront visual arts to arouse their appetite to see more, are the lacunae which the galleries of contemporary art should fill. Our country has begun a brilliant phase of national reconstruction, faster economic and industrial activity. We shall be failing in our national aspirations if we neglect to enrich our lives by the role that the visual arts are expected to play. The museum movement must not get stagnant. It should reactivate itself in the neglected area of contemporary visual arts activity to become in true sense "the house of the Muses".

Our country is acutely suffering from bad taste. New generation is growing without any knowledge of the arts. The obsession with economic and mercenary matters has resulted in throwing into the background the significance of creativity and its expression through the arts. There is a great danger that as decades will pass our people will become more and more indifferent towards the arts. The galleries of modern art have therefore to rise to the occasion. Their responsibility and role is specific. They should organize and plan their activities accordingly so that they can fulfil these responsibilities. Instead of being dead, unwelcome places, they should evoke an enthusiasm among the public and educate and cultivate their taste and their knowledge of the arts.

The galleries of contemporary art should take a lesson from how they are organized in the European countries and in America. The Museum of Modern Art in New York has become a leader in the world in the rich collection of modern masters it has made, through its very thoughtful and elaborate exhibition, its documentation and thorough researched publications. England has the Tate

Gallery which specializes in modern art and Paris its Musee D' Art Moderne. Numerous other museums could be cited from Europe, America and other parts of the world. There are brilliant examples of how Holland formed the largest collection of paintings of one of its own greatest painters, Van Gogh, or that of Norway with Munch's paintings in Oslo or the Rodin Museum in Paris. There are examples of a whole collection of modern masterpieces made by a dedicated art lover, Arengberg, ultimately finding its place as a nucleus of a great museum, like the Philadelphia Museum of Art. There are examples of a dynamic director of Municipal art gallery of a European town creating congenial conditions for the birth of a new significant movement in modern art namely "Zero Group". There are examples of brilliant retrospective exhibitions held with international collaboration by the American and the European museums of great twentieth century masters like Picasso, Max Ernst, Francis Bacon, Mark Rothko. An example of surverying current art phenomenon through a large exhibition was perhaps witnessed by several of us namely "Two Decades of American Art" held in Delhi sometime around 1967. The Archives of American Art is another example where an attempt is made to collect thorough documentation on each artist in the U.S.A. and acquire letters, photographs, paintings, reviews and all such information which is stored, classified and made available to research workers in Art History and Criticism. These are just a few examples as eye-openers to point out what could be the scope of activities and its impact on the society, if undertaken by the Museum of Contemporary Art in India.

34

PERSONALIA MUSEUMS IN INDIA : THEIR ORIGIN, DEVELOPMENT AND FUTURE SCOPE

SATYA PRAKASH

Museums in general are founded on some pride or the other. While national, state, regional and local museums stand founded on national-pride, state-pride, regional-pride and local-pride respectively, personalia museums are founded on pride in the great personality after whom the museum is named and founded. The great English poet H.W. Longfellow says :

> "Lives of great men all remind us
> We can make our lives sublime,
> And, departing, leave behind us
> Footprints, on the sands of Time;
> Footprints, that perhaps another,
> Sailing o'er like solemn aim
> A forlorn and shipwrecked brother,
> Seeking, shall take heart again."

Great men are sources of inspiration to many and so are the personalia museums. The history of the personalia museums in some parts of the world is a little less than a hundred years old, it is not even fifty years old in India, where it is only a post-independence development.

The personalia museums are biographical museums. These are intended to preserve memory of the great men, whose lives were models in some form or the other. India has produced a galaxy of great men in all fields of life and it is quite natural that a befitting tribute is paid to them by way of such museums.

There is a natural instinct in every man or woman to cherish his father's or mother's memory by preserving the objects used and lived by him or her. This tendency, when followed by intellectual enquiry, gave rise to the opening of personalia courts in museums and also to such sections as founder's gallery or founder's courts. Later on the same tendency gave birth to personalia museums in India in a fairly large number.

In order to commemorate the memory of Mahatma Gandhi, 'the father of the Nation,' in a suitable and concrete manner, the Gandhi Smaraka Nidhi, in the year 1949, drew up a programme for the establishment of museums in different parts of India, at places hallowed by the imperishable memory of Gandhi's life and work. We have in the U.S.A. as many as five museums on Abraham Lincoln with a view to preserve the sanctity of those places which were associated with this great man. The Gandhi Smarak Nidhi, likewise, decided first of all to set up four museums at New Delhi, Sevagram, Sabarmati and Madurai in order to commemorate the sacred memory of Mahatma Gandhi. Later on three more museums were established. Seven museums are, at present, functioning at Delhi, Sevagram (Wardha), Sabarmati (Ahmedabad), Madurai, Bhavnagar, Bombay and Barrackpure (near Calcutta).

In all these museums efforts have been made by the Gandhi Smarak Nidhi to preserve, protect and display, for the benefit of public the relics, articles and things associated with Mahatma Gandhi so as to propagate his ideas and thoughts.

Let us now discuss in brief the history and contents of the Gandhi memorial museums.

Mahatma Gandhi National Museum, Delhi—Facing the celebrated Rajghat, this museum was started in the year 1961 in a simple and unostentatious building. The contents of the museum are the personal effects, letters, manuscripts and a good number of photographs, relating to Mahatma Gandhi. This institution has a big library attached to it and it offers some services like film shows and seminars to the public (Pl. 97).

The Sangrahalaya at Sevagram (Wardha)—All the buildings which are hoary with memories of Gandhiji, go to constitute a museum, which is a class by itself. These buildings include in them the Ashrama-home of Gandhiji at Sevagram.

The Sabarmati Sangrahalaya—The Sabarmati Ashram at Ahmedabad was the abode of Mahatma Gandhi from the year 1917 to the year 1930. The Museum in the Ashram is lodged in a building which, in architecture, holds a mirror up to the ideals of Mahatma Gandhi.

Besides some rare photographs, this Museum has the unique privilege of preserving as many as thirty thousand letters, written to and by Gandhiji, both in the original and their microfilm copies.

The Madurai Sangrahalaya—This Museum, situated as it is in South India, is a source of attraction for the public from the states of Tamilnadu, Karnataka, Andhra Pradesh and Kerala. In this Museum a network of sound systems inside the picture gallery has been installed and one can have an audio-visual representation of Gandhiji's speeches. It has a good library attached to it.

Gandhi Memorial Museum or the Gandhi Smriti, Bhavnagar—The galleries of this museum are a visual biography of Mahatma Gandhi. A library consisting of works on life and achievements of Mahatma Gandhi, is attached to it.

Manibhawan Gandhi Memorial Museum, Bombay—The historic Manibhavan had a close association with Mahatma Gandhi so far as the latter's activities from the year 1917 to 1934 were concerned. This is a small Museum giving place to pictorial representation of Gandhiji's life and activities.

Mahatma Gandhi Sangrahalaya, Barrackpur—Situated near the Gandhighat, sixteen miles from Calcutta, this museum was established in 1966. The Museum is intended to serve the people of the eastern states *i.e.*, the West Bengal, Assam and Orissa. Its outstanding exhibits include a life-size portrait of the Mahatma, besides those projecting Gandhiji's role as a national leader. It presents a number of biographical objects relating to Mahatma Gandhi so far as his constructive ideas and programmes for national building were concerned. A good reference library, having books on Gandhi and his idealogy, is attached to it.

Gandhi Memorial Museums, in short, are a special feature of the personalia museums in India since they follow a general policy laid down by The Gandhi Memorial Museum Board at Delhi. Some of the museums offer material or the study of Gandhian philosophy to scholars besides providing a visual biographical sketches of Gandhiji's life and activities.

Nehru Memorial Museum and Library, New Delhi—This Museum is lodged in the official residence of Pandit Jawaharlal Nehru, the first Prime Minister of India, at Teen Murti house. Panditji had spent the seventeen years of his life here after the country had attained independence. This Museum was opened on the 14th November, 1964. It is not only a Museum to inspire the common men but also a research centre for those who wish to study Nehru and his contemporaries.

Some of the rooms of the building have been preserved as they were used by Pandit Nehru (Pl. 98) and the permanent exhibitions display items associated with his personal and public life. Different rooms on the first floor house in them the articles received by Pt. Nehru as gifts, both in India and abroad. The photographs, manuscripts, letters and documents throwing light on Pt. Nehru's life and activities and on his role in the Indian freedom movements and on his contribution to the international politics are also preserved here.

It has been the keen desire of the organisers of the Museum to keep as much of the character of the building as possible so as to preserve the setting of Pt. Nehru's personality, to arrange exhibition spaces for objects related to the events in his life and his contribution to the international relations. The Nehru Museum has attached to it an archival library, so as to achieve research functions of the memorial, which is centrally air-conditioned. In several ways, the Museum attempts to give the necessary leadership in various spheres of national life and activities in the same manner Pt. Nehru himself did. For anyone conducting research in modern Indian history, a visit to this Museum is a must.

The Lal Bahadur Shastri Museum, New Delhi—This Museum is located in the official residence of late Lal Bahadur Shastri, Prime Minister of India, at Janpath, New Delhi. One of the rooms in the building is maintained in the manner it was used by Shastriji. Another room is used for displaying photographs, paintings, personal effects and the articles received by Shastriji as gifts. This Museum is run by 'Lal Bahadur Shastri Seva Niketan' and is a small memorial museum, preserving the memory of Lal Bahadur Shastri who served the country as Prime Minister for only ninteen months but won the hearts of every common man whose true representative he was.

The Netaji Subhas Bose Museum, Calcutta—Founded by Netaji Research Bureau in the year 1961 at the historic Elgin Road Building (from where Netaji Subhas Chandra Bose started for his mission to liberate India from foreign yoke with his 'Azad Hind Fauj'). This Museum grew out of the collection of such articles as were used by him or were his presentations, etc. preserved by the sister-in-law of Netaji. Some rooms on the first floor have been preserved in the same manner as they had existed during Netaji's life time. Personal effects and other articles are on display on the 2nd floor.

The Chhatrapati Shivaji Museum, Satara—This Museum preserves the memory of the great Maratha Leader Shivaji on the basis of his pictorial representation, arms and the articles supposed to have been used by the great fighter for the freedom of his own land. Presently it is housed in a rented building.

The Sardar Patel Museum, Surat—Popularly known as the Sardar Vallabh Bhai Patel Museum, this Museum was for quite a long time known as Winchester Museum. Though this Museum is known after Sardar Vallabh Bhai Patel and is a popular one, well situated and easily accessible, on account of its major and valuable exhibits like rare coins, ornaments, paintings of various schools, illustrated manuscripts, textiles, etc., it does not come within the category of a personalia museum. It is, on the other hand, a multi-purpose museum.

Among the other noteworthy personalia museums, the Rabindra Sadana, Tagore Museum at Shantiniketan, the Rabindra Bharati Museum at Jorasanko, Calcutta, the Rishi Bankim Library and Museum at Kanthalapura, the Bangiya Sahitya Parishad Museum at Calcutta and the Carey Museum and Library at Serampur (West Bengal) can be mentioned. The above may be discussed in brief as under :—

Rabindra Sadana Museum, Shantiniketana—In order to pepetuate the memory of poet Rabindra Nath Tagore, the Rabindra Sadana was brought into existence on the 1st July, 1942 at Shantiniketana as a Research Academy and Memorial Museum. This Museum has the following sections :

1. Library and books by and on Tagore,
2. Archieves consisting of newspaper studies,

3. Letters and manuscripts,
4. Paintings by Rabindra Nath Tagore,
5. Photographs and films,
6. Voice records of Tagore songs,
7. Momentos and gifts and personal effects of Tagore.

Besides the above collection some paintings of Abanindra Nath Tagore, Gaganendra Nath Tagore and Nandlal Bose, who were his contemporaries, are also preserved.

The Rabindra Bharati Museum—It is housed in the ancestral home of Tagore at Jorasanko, Calcutta. Some rooms are preserved here in the manner they were used during the great poet's time. There are four galleries in the Museum. These relate to the Renaissance Movement of Bengal during the 19th century, the part played by the Tagore family in it, their contributions towards the nourishment of Rabindra Nath's thought and life and the work of Rabindra Nath Tagore. This Museum is maintained by the Rabindra Bharati University, Calcutta.

Shri Bankim Museum and Library—At Kanthalpura, where Bankim Chandra, the great Bengali novelist, was born, this Museum and Library is situated. It was this building where the immortal song *Bandemataram* was composed. The Museum in it was opened by the state Government with the articles associated with Bankim Chandra. These articles included not only Bankim Chandra's novels, turbans, etc. but also the letters, manuscripts, and a few photographs. This Museum has a library attached to it. In this library are stored and displayed the books on and by the celebrated author.

The Bangiya Sahitya Parishad Museum—This is a museum of its own kind. Its contents are the personal effects of and the manuscripts of, books written on and by the illustrious sons of Bengal.

The Carey Museum and Library—This Museum is situated at Serampur, a few miles away from Calcutta. It perpetuates the memory of a great Missionery who was a friend of the Bengali language and literature. Its collection includes some relics, rare manuscripts, paintings, rare books and first editions of the works of Father William Carey and his celebrated colleagues.

Besides, these museums the Rajendra Kaksha at Patna, the Nehru Hall in the Municipal Museum at Allahabad, the Renaissance Institute at Dehradun, the Sarat Museum as Panihas and the Jagdish Chandra Bose Museum at Calcutta preserve in them the sacred memories of Dr. Rajendra Prasad, the first president of India, Pandit Jawahar Lal Nehru, commrade M.N. Roy, Jagdish Chandra Bose, respectively.

After having surveyed the personalia museums of India we come to the conclusion that these museums were founded in the initial stages by the admirers of great personalities after whom the museums are named in order to pay their gratitude to them and also to prepetuate their ideals and activities for posterity. The establishment of such a museum is not an attempt at the hero worship but is to convey a realistic view of the stages through which the nation developed under the leadership of that individual.

The place of personalia museum in the contemporary Indian society can not be underestimated. These museums being biographical museums are more impressive than the ordinary biographical literature. The personalia museums are the audio-visual institutions provided with the life sketches, personal effects and voice records of the great personalities which enliven the spirit of the great men's glorious past.

An ideal personalia museum must tell the story of the great personality after whom it is named, step by step with the help of the personal effects, letters, voice records, etc., and charts, graphs, maps, paintings, photographs, etc., so that the total effect on the visitors is meaningful. The main task of a museum (personalia museum being no exception) is to educate the public. The education that one gets inside the museum is not formal and in most cases it is free. A properly planned personalia museum can be a very good place for learning lessons of patriotism.

The ideal personalia museums are very few in our country and most of these museums are but an apology for a museum. There is no agency at the central or the states level to permit or prohibit the opening of such institutions. Such uncontrolled growth is not a very healthy trend. In the case of the personalia museums, the commemoration of the deceased and the sentiment of the public towards their leader are attached and it is all the more difficult to dissuade the interested and enthusiastic band of people from opening a biographical museum.

The only way open for improving the lot of the present personalia museums is to prevail upon the Government of India to treat the museums, connected with national leaders, as Museums of National Importance. Other museums should likewise be run by the respective State Governments.

The students who are learning museology should be deputed for practical training in any of the personalia museums (situated close to them) and asked to demonstrate in practice, on the basis of actual reorganisation, what they learnt in theory. The students should be asked to work within limited funds provided or earmarked by the institutions for the museum.

In order to make the activities of the personalia museums more effective and useful to the public, every activity of the museum is to be elucidated in terms of various experiences. In this situation, the personalia museum would become an exciting place for the public to visit. If the past of the dead personality is analytically depicted in a comprehensive manner through the audio-visual devices in its proper historical and social back ground, even an ordinary visitor would be able to get solutions to the problems of his or her life.

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RURAL MUSEUMS IN INDIA

S.P. GUPTA

The concept of the rural museum in India is still in the minds of the museologists only[1]. By definition a rural museum has to be a museum which serves the needs of the rural population by presenting in its galleries the natural and cultural wealth of the locality and new technological devices which may be useful in the every day life of the people. The conceptual framework of a rural museum is, therefore, nearest to the framework of the local museum, both in scope and function. Possibly, the only difference between the two kinds of museum lies in the quantum of emphasis that we place on the applied part of museum activities. In this sense a rural museum cuts across various frontiers and touches the boundry of science and technology museums. After all, the latter kind of museums are not only to house the scientific and technological objects but also to educate the people in the fundamental principles of sciences, such as the law of gravitation, and also in the application of those principles in every day life through different technologies. A rural museum has to play a cognate role : it has not only to place before the visitors, say the fauna, flora and minerals of the locality, but also to explain them as how best they are usable.

In a country like India where the majority of the people live in the villages and do not get the benefit of higher education, the need of rural museums cannot be over emphasised. Somehow due to the various historical reasons the birth and growth of the museums in our country has been closely linked with the Renaissance in Europe and the English education in India.

In consequence, there have been two major facets of the museum movement in Europe : one was Romanticism and the other was love for the probe in the bio-cultural history of mankind. Romanticism led people to collect objects of their own forefather's with a sense of pride. The science of archaeology was the direct outcome of this movement. The desire to know the history of mankind as a whole added a larger dimension to the Romanticism, since it took the explorers beyond the boundries of their own country. It is because of these two factors that the early museums became the museums of curious objects of art, archaeology and natural history.

The Second World War has been a turning point in the history of mankind as it saw the emergence of a new social order in the fifties and the sixties. The new social order led to the formation of several independent nations with an emphasis on the socialistic pattern of collective ideology. Obviously, there was a quick application of the concept of museum in the fields of social good and educational diversification. The museums were now opened for crafts, transports, sports, health and various other activities in which new societies took legitimate interest. It is at this stage that the concept of social welfare made a definite thrust in the life of the people. The museums no more remained the houses of curios or of the pots and pans or the works of art of the bygone days. The Romanticism gave way to the universal education. The UNESCO took active interest and the non-Governmental professional bodies for the growth and development of museums sprang up both on the global and national plane. Bodies like the ICOM played a very important role in harnessing the idea of educational role of museums in the life of the community. In the ultimate analysis this new dynamic role that the museologists have taken upon themselves forced them to look to the needs of the rural population also. It is here that the concept of rural museum took its roots.

In one of the national seminars held recently at New Delhi[2], it was repeatedly stressed that the rural museums should be located in the community-centres, already opened in big villages. A section of the opinion favoured the location of such museums in the rural schools. The argument of this section has been based on the existence of infrastructure available in the schools—rooms, teachers, students, attendants and others. It has, however, been counter-argued that the village-folk, consisting of, by and large, the uneducated people, have some inherent prejudice against the schools mainly because of their inferiority complex. It is feared that elderly people will not go there. The concensus of opinion has, therefore, been in favour of the community centres (sometimes also the *panchayata ghar)* being utilised for the purpose of the rural museums. Further, we should go for them in a 'crash programme' manner since it has been felt that unless a certain amount of urgency is shown to the governments it may not catch their attention. It may be possible to do it now because the new policies of the Government are village oriented.

Once we agree that our rural museums should be located in places where the community gathers habitually, the next problem that a museum has to face will concern the nature and scope that such a museum should have. During a prolonged discussion in the seminarr eferred to above, it has been generally found acceptable that such a museum should be a multi-purpose museum. The idea of multi-purpose museum embodies two major aspects : first, the exhibition of objects, and second, the application of technology. The exhibits belonging to the former category may include objects of art, craft, archaeology, history, ethnography, botany, zoology, geology and many other related subjects coming primarily from the *tehsil* or *sub-tehsil* in which it is located. The objects belonging to the latter category may include new technical devices and machines useful for the local people. These may be exhibited in the open or in the covered spaces depending on the nature of the device. It is here that the functional aspect of the new technology, useful in the everyday life of the local people, may be clearly demonstrated. As a matter of fact, even the health and hygiene may be included in the exhibitions of this kind. The drainage system, houses with windows, medicines, etc., may find place in the overall scope of these museums.

Once the location and the scope of the rural museums have been settled, it is not difficult to appreciate the minimum needs of such museums on organisational plan. As said at the outset, a rural museum has to be conceived within the framework of the community centres. But it is only broadly so; museum should have its own building and personnel, well trained in the museum methods. The museology is now a specialized branch of social sciences where training is imparted not only in the methods of collection and documentation of the objects but also in preservation and presentation. An untrained personnel may have the enthusiasm of a collector but he will hardly have expertise of a trained museologist. It has, therefore, not to be lost sight of when the proposals for rural museums are made to the competent authorities.

Besides personnel, the element of participation of the rural people in the formation and function of such museums is of vital importance. It is a common knowledge that even in urban museums we now organise many clubs and societies of 'museum friends' to make the base of the museum much broader than what it would normally be without them. The participation of the rural people may start from the initial efforts made by themselves. It all depends upon the initiative and imagination of the curator, as to how is he able to create enthusiasm in the people and harness their collective will and energy, not only in parting away with their objects which may be displayed in the museums, but also in erecting the buildings and manning the galleries. The help of the members of the staff of the local schools and community centres may also be fruitfully sought. It has been the experience of some of the curators coming from the rural areas that such help is always forthcoming, provided the curators have the capacity to mobilize it. As a matter of fact a limited amount of fund could also be collected on the occassions of special exhibitions and functions arranged by such museums for the use of the educational activities.

Unfortunately, the idea of rural museums has yet not caught the imagination of our planners. As a matter of fact, even the idea of 'District Museum' has yet not found favour with many authorities. Uundoubtedly, the need for rural museum is very much there and it is our onerous duty to pursue the matter at every conceivable level.

References

1. The author gathers from Dr. T.K. Biswas of the Museology Deptt. of the Banaras Hindu University that in Bengal he knows of at least three museums which are located in the villages. On enquiry, however, it was found that while two of them, housed in the local school buildings, have collections only of historical and archaeological nature, the third one deals in the local textiles and arranges even their sale. Obviously, these are hardly the kinds of museums we have in our view in the present article. The author is aware of many other museums in rural schools but these museums form a category by themselves, like the site-museums organized by the Archaeological Survey of India and they need not be included in the category of (multi-purpose) rural museums envisaged here.
2. All India Museums Conference 'held at the National Museums of Natural History, New Delhi from 12tb to 15th, Feb., 1979.

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FOREIGN COLLECTIONS IN INDIAN MUSEUMS : A BRIEF SURVEY

M.L. NIGAM

There has been a considerable awareness all over the world for preserving and understanding the relics of art and culture of the humanity as a whole. With the advancement of science and technology, the geographical dimensions and the political barriers are diminishing fast and a collective urge to understand the past and present of the human race is developing with the countries of the world.

With the result, it has become inevitable for a leading museum in a country to build up foreign collections within its fold and thereby present an opportunity to the people of its community to study, interpret and draw parallels in the history of art and culture of mankind. India is no exception to this developing phenomenon and there are several museums in the country possessing works of art and crafts from different parts of the world. It will not be out of context here to understand the very basic point as under what circumstances and motivation these collections of foreign culture were acquired and so also to what extent the people at large are benefitted from such collections. Again, it will be worthwhile to examine the various attempts made by the Indian museums to systematise and enrich their foreign collections. Such a critical analysis of foreign art-collections in museums of our country may also be fruitful to understand the need of building up such collections by Indian museums in future and also to plan ways and means to make these treasures of art and culture more meaningful and effective.

There are several museums in the country which have the objects of art and crafts belonging to the different parts of the world in their collections. The National Museum, New Delhi, has an excellent collection of Central Asian Antiquities from the very beginning and has now opened a section devoted to the objects of Pre-Columbian Art also. Sir Aurel Stein explored the distant regions of Central Asia and brought back a large collection of Central Asian antiquities to the Archaeological Survey of India, New Delhi, which was then set up as Central Asian Antiquities Museum. When the National Museum, New Delhi, was established, this museum merged in it and now forms a Department of the same. Similarly, the objects of Pre-Columbian collection entered the National Museum, New Delhi, through the generous gift of Alice and Nesli Heeramaneck from U.S.A. His collection includes objects from Mexico, Peru, Iran, Egypt, etc. These generous gifts to the National Museum, New Delhi, which otherwise deals with the objects of Indian art and archaeology, have, no doubt, found a rightful place as they can be viewed by number of persons from all over the country at New Delhi (Pl. 100). A visit to these two sections in the National Museum, New Delhi, may be found self rewarding in so far as these collections provide a rare opportunity to the visitors to study and understand the cultural trends and traits of different lands in context of Indian archaeological material of the hoary past and thus have a better appreciation of Indian art. While the Central Asian collection is one of three such collections in the world, the Pre-Columbian collection is the only such rare representation of this art in Asia.

The Prince of Wales Museum, Bombay, and the Baroda Museum and Picture Gallery, Baroda, also have a good number of European paintings, porcelain, furniture and stray examples of sculptures. The Victoria Memorial, Calcutta; the Museum at Oundh, Maharastra and the Chitraśālā at Trivandrum also possess quite a few paintings and other objects of art and crafts from the European countries. It need not be over emphasised that such uneven and hetrogenous collections of foreign origin can be made useful to the Indian visitors only when they are properly identified and the existing gaps in between the different types of collections are filled in. Recently, a gallery of Western Porcelain has been added to the Indian Museum, Calcutta, also.

The Salar Jung Museum, Hyderabad, which was declared as a Museum of National Importance by an Act of the Parliament in 1961 is, no doubt, the biggest and the foremost museum in the country which deals with the objects of art and culture, both of occidental and oriental origin. Amongst the objects of Western origin, the museum houses paintings, bronzes, marble statuary, procelain, furniture, glass, clocks and other crafts such as ivory, metal-ware and textiles. The objects of arts and crafts belonging to the middle Eastern countries, especially of Persian origin, are of considerable importance in view of both quality and quantity. Besides, a variegated and versatile cross-section of illustrated Persian manuscripts in Arabic and Persian languages, the Museum excels in the Persian carpets, furniture, metal-ware, arms and armour. Regardless of the Indian collections of fabulous jade, miniature paintings, textiles, ivory, arms and armour, etc., the Salar Jung Museum, Hyderabad, also possesses a prize collection of Chinese celedon, lacquer-ware, embroideries, bronze figures and wood-crafts. Similarly, Japanese Satsuma porcelain, lacquer-ware, ivory carvings and embroideries present an exotic view to the visitors.

It may not be out of the context here to analyse the inherent merits and demerits of the existing foreign collections in Indian museums. Basically, the majority of European objects of arts and crafts in Indian museums are from the

United Kingdom because of the long historical association of the two countries in the past. Again, the bulk of collections belong to the mid. and late nineteenth century A.D., a period when the Indians started visiting the European countries, especially the United Kingdom. Due to their archaeological bias, the Indian rulers and nobility, barring a few exceptions, preferred to buy from the European markets either the copies of the Greek and Roman sculptures or the oil-paintings depicting narrative episodes of the European classical mythology. With the result, the majority of the canvas paintings, bronzes and sculptures of the European origin in the Indian museums are either the copies of the old Masters or the less important works of little-known artists. Even in the collection of the Salar Jung Museum, Hyderabad, the majority of the European bronzes and marble statues, excepting a few notable originals, are the crude copies made during the nineteenth and the twentieth centuries. Amongst the European paintings, the Museum has a good representative collection of the well known British paintings of the nineteenth century (Pl. 99). For example, the well-known British painters like David Wilkie, G.F. Watt, Sir Edwin Landseer, Lord Leighton, J. Poynter and Lawrence Alma-Tadema are alive through their works in the collection. Of course, the two scenes of Venice, attributed to Guardi and Canaletto, are good quality paintings. Besides, a water-colour, Geneva, attributed to Joseph Turner and the two small landscapes attributed to John Constable, are of considerable importance. However, it need not be emphasised that the collection is hardly adequate to give an idea of evolution of the European paintings. The copies of earlier works of Master Painters, which are exhibited in an adjacent gallery, are mostly of low quality and of a very late period. Even the collection of the European porcelain, with a fairly good representation of Dresden, Sevres, Wedgewood, is not fully represented by all the major European factories. It is evident, therefore, that the Western collections in Indian museums do not give an idea of comprehensiveness and totality of their art and culture.

It must be understood that the collections of foreign origin in the Salar Jung Museum, Hyderabad; the Prince of Wales Museum, Bombay; the Baroda Museum and Picture Gallery and Fateh Singh Museum, Baroda, etc., were made by the *Rajas* and the nobility owing to their opulence and privileged positions. Their main purpose to acquire the *objects d'art*, was to flatter their British rulers in India, during the pre-Independance era. Therefore, to find any logical sequence or chronological coherence in such collections is not possible.

Secondly, the bulk of such collections seems to have been acquired in London through the Royal Academy where the majority of the nineteenth century British painters were found represented or through the Auction Halls and sometimes even from the Modern studies of artists who used to copy the famous works of the classical period. No doubt, the value of these collections today, in terms of money and material, may rate high, yet their suitability to be housed in a museum, in the absence of any chronological sequence or the continuity of traditions of the European art history, presents serious problems.

Again, a great handicap which is encountered in building up of fresh collections of foreign art today with a view to open new galleries or to fill up the gaps in the existing collections, is the non-availability of genuine objects of foreign workmanship in India. Even if good objects of art and culture from foreign countries are available to the Indian museums in the open market, the limited resources of the Indian museums do not permit to acquire them. Therefore, it is most difficult for the Indian museums to add new galleries of foreign art or to bridge the gaps in their existing collections by acquiring new objects worthy of museums at this juncture.

Under the circumstances described above, it will be in the interest of the Indian museums to chalk out a clear cut policy in relation to the opening of the new galleries and building up collections of foreign objects of art and culture for the benefit of Indian public. It must be clearly understood that a modern museum does not develop the collections in a haphazard way. The development of Indian museums, thereupon, needs a clear cut policy in context of foreign exhibits, where each museum collection is developed in view of its specific scope and purpose to avoid meaningless duplication in future. It is true that the Trustees or the Governing Body of a particular museum may not be in a position to check the simple temptation to add something new and exotic to their museum collection but they must be convinced that mere opening of a solitary gallery of foreign art objects of comparatively modern growth may not serve the useful purpose in the midst of ancient Indian material. Any further addition to the collections of a museum must be in conformity with the age, environment and traditional background of the existing material. It is the high time for the Indian museums to take fresh stock of the situation and develop their collections, keeping in mind their respective scope and governing policy. Instead of opening a solitary gallery of foreign art or crafts amidst galleries pertaining to Indian archaeology, ancient art and crafts, it will be worth considering to lend objects of foreign origin on mutual exchange basis to such museums which have already got a sizeable collection of similar objects. Such a policy may be found more congenial and helpful to develop a few but systematic collections of foreign art to the benefit of Indian public.

A natural question arises as to how to make these existing foreign collection in the Indian museums useful to the Indian visitors even when these are by no means complete and comprehensive. They are hardly sufficient to reflect the innumerable developments, traits and trends of the European art history. It will be advisable, therefore, to present the existing foreign objects of art and crafts to reflect striking trends and traits, customs and manners of the European society of a particular era to which such objects of art and culture belong. The idea of arranging 'Period Rooms' to bring out the cultural norms of the society in the given volume of time and space will not only catch the attention of the Indian visitors but will certainly prove more meaningful. It will hardly need much efforts on the part of the casual Indian visitors to grasp the underlying cultural trends and behaviour of the people by just going through the exhibited material. Again, if the existing collections permit, sometimes it may be useful to arrange material-wise the objects of recent crafts such as ivory, metal-ware and textiles, etc., alongwith the Indian material of the same period, to enable the Indian visitors to study the differences in the various techniques and skills employed in producing such objects by the different people of the different lands during a particular period. It will further facilitate to understand the cross-currents and underlying influences in the art and crafts of the East and the West owing to the developed means of communication and other political, commercial or missionary activities. It will be further useful in knowing the changing patterns of the European economy from time to time.

Another significant importance of such foreign collections in the Indian museums is to understand the Greek and Roman mythology which continued to dominate the art and culture of the European society in a large area of the world for a considerable period of human history. The numerous iconographic forms of ancient Greek and Roman gods and goddesses in relation to the Indian gods and goddesses will, no doubt, present an interesting study to understand the development of religion, metaphysics and philosophy of the world.

A similar study of the development of the Buddhist iconography and its impact on the art and crafts of the Eastern world and the north-west frontiers of India will be found most rewarding to understand the relationship of India with the neighbouring countries in the past. The galleries devoted to the art of the neighbouring countries, such as that of Nepal, Sri Lanka, Burma and Afghanistan, should also be opened.

In the end, it must be stated that the proper understanding of the art and culture of other countries in relation to one's own art history and culture is of utmost significance in the context of fast moving world of today. It is helpful not only to know the social behaviour, customs and manners, trends and traits, religions and philosophy developed in different parts of the world and by differing ethnic groups of people in the past but also to develop a feeling of oneness and fraternity amongst mankind by making them understand the universal approach and a common instinct to create, expand and solidify the forms, motifs, designs and patterns which present vividity amidst uniformity and unity amidst diversity. Such an urgent urge to collect, preserve, exhibit and interpret the objects of art and culture of different countries has already been universally realised by the foreign museums and there is no reason as to why the museums of India should lag behind in fulfilling the dire need.

Suggested Reading

1. Sivaramamurti, C., *Directory of Museums in India*, New Delhi, 1959.

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SPECIALISED MUSEUMS IN INDIA : A SURVEY

D. N. VERMA

Originally, museums in many countries were general museums, that is, they included sections on archaeology, arts, natural sciences, ethnology and sometimes even on aspects of pure science and technology under one administration in the same building. The original British Museum, London, which also has a great Library, is the classic example of this type of multi-purpose museum.

The first museum collection in India dates as long back as 1796, only forty years after the inception of the British Museum. It was in that year that the Asiatic Society felt the need to house the many "curiosities" that had accumulated as a result of the collecting zeal of its members. The next Indian city to have a museum was Madras where the Literary Society of Madras, a branch of the Asiatic Society, approached the Directors of the East India Company in 1843 for the establishment of a museum. The Officer-in-charge of the museum was Edward Green Balfour whose infectious enthusiasm brought into existence half a dozen museums in as many years. All of them, excepting one, closed down later. It is evident, therefore, that the origin of the Indian museums can be traced to the gratification of the foreigner's sense of curiosity. The membership of the Asiatic and the Literary Societies was largely restricted to the Europeans.

The Eurepean museums of the nineteenth century tended to specialise more strictly. Not only the art and the archaeology were separated from the scientific subjects but even in the broader divisions the tendency was towards greater specialization. In India, however, a majority of the early museums took their cue from the museums started by the Europeans and the result was that the collections comprised more of such objects which gratified the curiosity rather than provide specialised education to the masses. In any case the museums were the preserve of the researchers and the scholars. Quite often the early museums did not have their scope defined. A collection of antique musical instruments could be adjacent to a collection of minerals. The smaller museums acquired whatever came their way. The urge to collect had the better of any attempt to make a satisfactory use of the objects for the benefit of the visitors.

The earliest specialised museums of India came into existence either by the circumstance of being attached to the educational institutions teaching a particular subject or by the virtues of the abundance of the archaeological relics.

There is practically no Medical College of importance in India which does not have a museum attached to its different departments for the promotion of studies. Some of them, like the Grant Medical College at Bombay, has one of the oldest museum dating back to 1845 having a catalogue printed in 1850 while the new ones keep on emerging every day. In Mysore the Museum of Forensic Medicine will interest even the lay visitors.

It may be said against such museums that they are meant only for the students and cannot be of any use to the general public. However, it is felt that there is no basic prejudice against letting others also learn, and specialised educational institutions have nothing against the outsiders. Some museums of the Forest Research Institute at Dehradun in Uttar Pradesh, a post independence phenomenon, have all the exhibits properly labelled both in Hindi and English, in a non-technical simple language which would have been unnecessary had there been the desire to keep the outsiders out. In fact these museums invite the nearby school students, make arrangements for taking then round the galleries and explain them the exhibits.

The Asutosh Museum with its specialised collection of art is the earliest University Museum, attached to the University of Calcutta. The Bharat Kala Bhavan at Varanasi is attached to the Banaras Hindu University. Both of them have outreached the limits which the necessities of the college students impose upon such museums and are in fact the trend-setters.

Several universities, which have a Department of Archaeology and conduct excavations and explorations at ancient sites, have established their own archaeological museums. These museums at Poona, Baroda, Sagar, Allahabad, Dharwar and Patna have limited but significant archaeological material of varied nature on display ranging from the Early Stone Age to about 1800 A.D.

In fact the largest number of specialised museums in the country pertain to archaeology. The reason is obviously the abundance of the material. The establishment of the Archaeological Survey of India, in as early as 1861, also greatly helped the emergence of museums specialising in archaeology. From the very beginning the site museums were preferred because it was rightly thought that the relics shorn out of their context lose much of their significance. The Archaeological Museum at Sarnath came into existence in 1904. Those at Nalanda, Bijapur and Sanchi were established successively in 1910, 1912 and 1919.

The advent of freedom in 1947 only increased the enthusiasm for establishing the archaeological museums at sites and new museums appeared at Nagarjunakonda (1949), Amaravati (1951), Kondapur (1952), Khajuraho (1952), Bodh Gaya (1956), Hampi (1958), Halebid (1962), Goa (1965), Konark (1965), and very recently at Vaishāli. Of these, the museums of Khajuraho and Sanchi were being run by the respective State Governments even earlier. The Archaeological Survey proposes to start six more site museums in the coming years at Lothal, Ratnagiri, Kodambalur, Deogarh, Rupar and Burzahom.

A very specialised archaeological collection of the excavated antiquities from the different sites excavated by the Archaeological Survey of India is partly stored and partly displayed in the *baradari* of the Purana Quila, New Delhi. The collection is meant primarily for the education of the students of the School of Archaeology run by the Survey, but is equally accessible to all the research scholars working on Indian Archaeology, with the permission of the Director General of Archaeology in India.

Though a good many Indian museums were founded as a result of interest in some aspect of natural sciences and a good many museums have continued to include a natural history section, the development of museums specially devoted to the Natural History has been curiously slow in a country like ours, with such an immense variety in its flora and fauna, in its topography and in its climate. While the Prince of Wales Museum, Bombay, the Indian Museum, Calcutta, and the Government Museum, Madras, have significant sections devoted to the Natural History, the three museums devoted exclusively to the Natural History are the Natural History Museum of Bengal; the Natural History Society Museum in Darjeeling and the newly opened National Museum of Natural History in New Delhi (Pls. 41 to 51).

The All India Handicrafts Board, Government of India, since its inception in 1952, undertook to collect and preserve the unique objects in the field of handicrafts, but a Crafts Museum for the general public came into existence only in the year 1956-57 in New Delhi. An exhibition of a unique collection pertaining to this field has been on display at the Thapar House, New Delhi. Lately, this Museum has opened a Rural India Complex which is an open-air museum showing the different types of huts, rural crafts, etc (Pls. 66 to 69).

The collection in the Crafts Museum has been enriched by the acquisitions of dolls and toys, paintings and textiles, stone, ivory, wood and metal objects, terracottas and jewellery etc., from various parts of India. The extensive collection of textiles is the speciality of the Museum. A prize collection is a rare specimen of a very large-sized *kalamkari* print, Baluchar *saris*, Masulipatnam *batiks*, Banaras brocades, Gujarat *patolas*, Tanjore silk, Panjabi *phulkaris* and the decorative *kanthas* from Bengal.

Perhaps, in the context of textiles, the outstanding example of a museum for a special purpose, unique in its field and having a high level of exhibition and scholarly activities, is the Calico Museum, Ahmedabad (Pl. 101). Its collection of Indian textiles is without a parallel in the matter of quality and variety, from the earliest times from which the textiles are preserved. The installations are attractive, have their own definite style and are planned for the convenience of the research scholars even more than the general public, though the public is at no disadvantage. The setting of the building, too, is extraordinary, in part eighteenth and early nineteenth century Gujarati home facades, with their rich wood carvings. Of course, it is adapted to museum purposes with great practicality as well as charm.

Planetariums, too, are considered these days closely associated with the museums by virtue of their functions and are grouped with the museums by the ICOM. The Birla Planetarium at Chowringhee, Calcutta, has been set up by the Birla Education Trust at a capital cost of Rs. 30 lakhs with the aim of spreading the knowledge of astronomy and to conduct research in the several fields of astronomy and the related subjects. It is the largest in Asia and second largest in the world. It started functioning in 1962. In addition to the ragular presentations for the general public, the institution also arranges for specially designed graded lectures covering the school syllabus.

The importance of Science and Technology Museums can hardly be denied especially in the developing countries. Science and Technology are so closely interlinked that no museum can be strictly called a pure science museum or a pure technological museum. The two major science museums of India, established after the advent of the independence, are the Birla Industrial and Technological Museum, Calcutta and the Visvesvarayya Industrial and Technological Museum, Bangalore. Both have done outstanding work in their field and deserve elaborate treatment separately. A third one is in making at Bombay.

The country can boast of some Defence museums as well though none of the existing museums reach any where near fulfilling the potentialities in this field. The National Defence Academy at Khadakvasla, Poona, has a museum which caters primarily to the needs of the cadets in the Academy. A similar museum exists at Dehradun attached to the Indian Military Academy. These museums have some arms and armour, booties from wars, colours of different regiments and other souvenirs. The Air Force has a museum at Palam, New Delhi. Arranged in a hangar and three halls, the exhibits acquaint the visitors with the trophies won in wars by our pilots and the progress made by the Indian Air Force. The visitors also see the models of the various air crafts used by the Indian Air Force from time to time. Yet another museum at Delhi, the one in the Red fort, has a collection of war memorial exhibits. The E.M.E. centre at Hyderabad has also the nucleus of a museum which acquaints the visitors with the role of electrical and mechanical engineers in our Defence forces. The dioramas depicting the recovery of immobilised tanks in the thick of war are indeed impressive. The Air Force Head Quarters at New Delhi has also some exhibits displayed publicly for the purpose of raising morale. A typical example of an exhibit is the uniform of the first Indian Air Marshal. It hardly needs emphasising that the Defence museums have a tremendous potential in our country. What is needed is a close cooperation between the museologists and the Defence authorities.

With the growth of specialisation any subject under the sun can be presented in a museum. This brings one face to face with museums on most unusual subjects.

The Himalayan Mountaineering Institute at Darjeeling has the Everest Museum which houses momentos of almost all the Everest Expeditions since 1921. The Museum came into being in 1963. One can also see here the development of the mountaineering equipments.

Can there be a museum devoted to building material ? In fact there is one at National Buildings Organisation Display Centre, Nirman Bhavan, New Delhi, though it is not specifically called a museum. The exhibits donot belong to the institution but to the different firms which manufacture the building material. It is these firms which not only lend the exhibits but also pay for their suitable exhibition according to the space occupied by them. Those who have a look, naturally go out wiser. They learn about the different building materials, where and how they can be used, how minimum space can be put to the maximum use, etc. The exhibits include plastic, glass, timber and sanitary products, hardware, doors and their fittings, windows, paints, concrete, cement, tiles, electrical fittings and appliances and other miscellaneous products associated with the building activity. Those who are planning to build a house can certainly benefit a lot by visiting this place.

The Rail Transport Museum at New Delhi came into existence in Feb. '77 (Pls. 88-89). It is functioning under the Railway Ministry of the Government of India. The Museum's railway section has already started attracting the visitors and in future it will locate and gather more antique locomotives and carriages for preservation and exhibition. The museum proposes to have in future sections on water transport, road transport and air transport as well.

The National Sports Museums at Patiala is a part of the National Institute of Sports and aims to preserve for posterity the sports momentoes, trophies, old sports gear, badges, diplomas and souvenirs of national and international importance. Besides inspiring the promising sportsmen and raising their morale, the exhibits will be of some use to the research workers as well.

The Central Police Museum of the Central Bureau of Investigation is housed at R.K. Puram in New Delhi. It belongs to all police and other law-inforcing agencies of the country. It has a historical section devoted mainly to the exhibits connected with law enforcement in ancient times. It depicts the gradual evolution of enforcement agencies.

It is true that the Indian museums made a beginning by having multi-purpose museums but in this age of specialisation it is the specialised museums which suit the needs of the people who want to make the systematic use of their leisure hours and increase their knowledge in the specific fields. The specialised museums have a bright future. Let us hope many more such museums are opened by various specialised agencies.

[*Editor's Note* : Some other notable museums in this category are :
The Museum of Man, Bhopal
The Jems and Jewellery Museum, New Delhi
The Indian War Memorial Museum, Red Fort
The International Dolls Museum, New Delhi
The Tibet House, New Delhi
The Philatelic Museum, New Delhi.]

Suggested Reading

1. Agrawal, Usha (Ed.), *Brief Directory of Museums in India*, New Delhi, 1977.
5. Dwivedi, V.P., some little known Indian museums, *Journal of Indian Museums*, Vol. XXVII-XXVIII, New Delhi, 1971-72, pp. 82-87.

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BLUEPRINT OF A WAR MUSEUM

G.N. PANT

Introduction

In India today various kinds of museums have come up. In the first category fall the art and archaeological museums which, by far, outnumber any other type of museums. These are mainly concerned with the development of art (*i.e.*, stone sculptures, bronzes, painting, coins, excavated material, etc.). Then there are the Natural History Museums preserving the rare collection of flora and fauna; the Science Museums which exhibit the basic principles of the subject through imaginative objects, whether it is the Geology, the Botany or the Physics; the Personalia Museums, dealing with the achievements of great men like Gandhi, Nehru, etc. ,the Industrial Museums; the Aviation Museum; the Transport Museum; the Atomic Energy Museum; the Space Museum; the Philatalic Museum, etc., have also been opened, mostly after the independence. It is further proposed to have a separate Museum of Man (anthropology), the Museum of Coins (numismatics), the Museum of Gems and Jewellery, the Museum of Tribal Art, Flok Art, etc. In short there does not exist a subject for which a separate museum cannot be established.

History of Defence Museums in India

While in the Europe, including the U.S.S.R., the America and some countries of Asia several 'War Memorials', 'War Museums' and 'Arms Museums' are successfully functioning, India has a very disappointing picture to present. The first attempt was made at the Naubat Khana, Red Fort, Delhi, while the First World War (1914-1919 A.D.) was still on. The weapons, photographs, records, etc., pertaining to the First World War were collected and stored at the Red Fort, Delhi, with a view to build up two museums simultaneously : one at London known as the Imperial Army Museum and the second at the Red Fort, Delhi itself under the name the Indian War Memorial Museum. Most of the interesting museum objects of the first rate quality were sent to the Imperial Museum, London, still there were quite a good number of arms and war accessories left with the Red Fort, Delhi. After the independence this Indian War Memorial Museum was transfered to the Delhi Administration and was kept under the charge of an illiterate or hardly literate

Curator. The objects were kept in a very shabby condition and a few important pieces were indiscriminately transferred to the other places. For some time this Museum was even opened to the public but since its condition had deteriorated, it was closed down for good. Thereafter, this Museum was transferred from the Delhi Administration to the Department of Culture. Still the condition of this Museum did not improve and the objects rapidly deteriorated. On the 1st May, 1979, this Indian War Memorial Museum has finally been transferred to the Archaeological Survey of India, New Delhi, and now the efforts are being made to reorganise it on the scientific lines.

Another humble attempt was made at the National Defence Academy, Kharakvasla, Poona. The author was himself associated with the organization and setting up of this Museum. But even after a decade it is still a local defence museum mainly for the defence personnel. It is, no doubt, opened to the general public yet the response from the masses is negligible owing to its being situated in the prohibited military area.

A third Arms Museum has been set up at the Indian Military Academy, Dehradun (U.P.), but this also has not shown considerable results.

The true Arms Museum is the Pratap Shashtragara at Baroda which has been opened by the Ex-Maharaja, Baroda and has been attracting a large crowd. Since, it is a private museum, it has serious limitations of the funds, the staff, the expertise etc.

The Government of India, being always very eager to open a true 'National War Memorial-cum-Defence Museum' set up a Committee of the Experts in the early sixties and in the early seventies a Major General was appointed as its Project Officer. A huge area, near Vasant Vihara in New Delhi, has since been earmarked for this Museum and a detailed Project Report has been submitted. Now a dynamic Lt. Colonel is looking after it and when it is completed it will be one of the best museums of its kind in Asia and the foremost in India.

There are a number of museums in India having excellent arms collections, for example, the National Museum, New Delhi; the Salar Jung Museum, Hyderabad; the Alwar Museum, Alwar (Rajasthan); the Sawai Man Singh II Museum, Jaipur; the Indian Museum, Calcutta; the Prince of Wales Museum, Bombay; the Palace Museum, Udaipur (Rajasthan), etc. But basically all these are the art and archaeological museums and only one or two galleries have been devoted to the arms and armour.

Why An Arms Museum ?

A natural question arises as to why do we want an Arms Museum immediately ? Why can't we wait, since we have waited so long, the arrival of the proposed National War Memorial Museum ? In fact, some such museum should have been set up the day India got its independence then we would have honoured our martyrs, freedom-fighters and soldiers much better. At least it should have been opened in 1962, at the time of the Chinese aggression, and we would have paid a benefitting tribute to those who laid down their lives yesterday for our today. Again 1965 witnessed the Indo-Pak War and the necessity of a similar museum was felt and finally in 1971 it was realised, much more seriously than ever before, that a permanent place must be chosen, where the heroic deeds and the war-trophies may be preserved for eternity. Human memory is very short, we adore the soldiers during a war and allow them to plunge into oblivion immediately after the war is over. The war-material, associated with our soldiers and adversaries, is easy to be collected at the time, when the 'war is on' but the same is scattered with the passage of time. While we owe so much to these soldiers who guard our frontiers, so that we enjoy the charms of life within, we do nothing to honour them. Merely slogans or a few pensions, or an 'Eternal Flame' at the India Gate will not serve. These are very good steps in their own way, no doubt but something substantial, something everlasting, something eternal has to be done, where 'their' memory is evergreen and where 'their' arms and relics always remind us of them. Do we have to wait for another big war before such a museum is opened ?

Secondly, the privy purses have been abolished and the erstwhile princes have been asked to obtain the licences for all the weapons in their armouries, which hitherto was never applicable. Since most of these arms are obsolete and of no use to them, these are being disposed off in a ruthless manner. It is high time, nay the only time, when some of these historically important arms can be collected under one roof and thus be saved.

Thirdly, on an average about 20000 old arms and edged-weapons are being exported every year under the export licence of the Archaeological Survey of India, on the sole plea that these are less than one hundred years old and, therefore, do not strictly and legally fall under the category of the 'antiquity' hence cannot be detained. The fact that some of these outgoing weapons are extremely rare, wonderfully well-preserved and historically important, has been brought to the notice of the Archaeological Survey by the Arms Expert on the 'Expert Committee of the Export of Non-antiquity' but the 'Antiquity and Art Treasures Act, 1972' has its limitations, and, therefore, the Archaeological Survey is helpless. However, the Archaeological Survey has always tried to persuade the leading museums of the country to acquire some of these arms but the response has always been disappointing. Thus the only way left before us is to open a separate museum, exclusively for the arms, before it is too late.

Fourthly, old arms are buried in the forts, piled up in the Ordnance Factories, stuffed in the defence godowns, scattered in the police headquarters, etc., waiting for their slow and steady death. A little affort will revive them all and most of them will find their legitimate place in the Museum of Arms. All that is required is to depute an expert, well versed in the subject, to go round the different places and select, almost free of cost, as many as he wants for the proposed Arms Museum and the rest of the good pieces can be distributed to other museum as well. A huge collection of arms, worth millions of rupees, can thus be acquired at no cost.

The other sources for the acquisition of arms have been discussed separately.

In short, things have considerably been delayed and we have lost some very precious specimens. Further delay would be suicidal. We need a War Museum right now-just today-tomorrow may never come or may come empty-handed.

Aims And Objectives

(*i*) It may be a Defence Museum not for the defence forces, but a defence museum for the public. On one hand, it will prove the nucleus for the proposed 'War Memorial-cum-Defence Museum', and on the other hand prove an invaluable centre for research in the field of Indian arms through the ages.

(*ii*) It will portray our martial heritage. The weapons of the by gone days, the crucial battles fought with them, the possession of certain weapons or lack of them changing the fate of India, the science and technology affecting the weapons, etc., will properly be projected.

(*iii*) This Museum will inculcate the feeling of awareness about our defence amongst the people. It will tell them about the people's participation in the war. The war is fought not on the frontiers alone. The 'Second line of Defence' is no less important. It will make our people disciplined and will teach them that the 'non-violence' does not mean cowardice. The best way to preserve the peace is to be prepared for the war.

(*iv*) It will project the true image of India to the foreigners. It will safeguard our heritage and will form the basis for the future researches in the Indian art of war, tactics and strategy, battles and siegecraft, victories and defeats, etc.

(*v*) It shall be a memorial to those who are 'no more'. We owe a debt to them; to those who perished for our nation, who sacrificed their lives so that the nation could live. It will inspire the coming generation to join the defence forces and thus carve history. It will remind our martyrs that their sacrifices have not gone waste and that we have never been ungrateful to them, not even after they have departed. It will be a tribute to them, will be a symbol of their valour, a temple to their memory and an eternal memoir to their honour.

(*vi*) This museum will collect, preserve, classify, document and exhibit the different arms and armours used from the dawn of history to the present times.

(*vii*) It will develop a specialised library of the books, the periodicals, the magazines, the photographs, the transparencies, etc., pertaining to the Indian arms and armour, and will hold the seminars, the conferences, etc., and organise the special exhibitions, both within the museum, and also the 'mobile exhibitions' outside it.

(*viii*) Small and specialised to start with, a Museum of this kind will fill a long felt lacuna in the annals of Indian museums and will prove a reference centre.

Thus it is likely to be developed as a museum, a memorial, a training institute, a recreation centre and a living history.

The Nature Of The Museum

This Arms Museum may revolve around three main themes :

(*i*) **Commemoration** : Some unique idea may be devised like an 'eternal flame' or 'Roll of Honour' or a 'small 'Victory Pillar' (*Vijay-sthambha*), etc., which may be installed near the museum. This commemoration may be small, without obstructing the view of the Museum, but imposing. Some architects/sculptors/artists may be consulted for a still better theme.

(*ii*) **Exhibition** : The objects will be exhibited in a thematic manner maintaining the chronology wherever possible. Special emphasis will be laid on the Mughal, the Sikh, the Rajput, the Maratha, the East Indian Company arms and on those used by our soldiers during the First World War. Together with the actual specimens, the photographs, the drawings, the dummies, the battle-plans, etc., will also be used, and also the paintings, the sculptures, etc., depicting the war, warfare and weapons. A detailed list of these panels and rooms is given separately. The less known periods of Indian warfare will be displayed on one or more wooden panels while the complete rooms will be alloted to the Mughal, the 1857 War, the First World War, etc.,—the well known eras for which ample material is available in our country.

(*iii*) **Research** : In order to promote research and to bring out the monographs, the books, etc., the library and the archives will be set up. The reserve collection will be converted into a 'Reference Room' where the scholars can consult the weapons directly.

The Justification Of The Proposal

The Arms Museum will serve several vital purposes in the field of the national education, the national discipline and the national integration. Firstly, it will be a glowing tribute to our martyrs and, as explained earlier, will encourage more and more people to understand, appreciate and participate in our defence activities. The people will understand that the soldiers not only 'fight' but also defend the total culture. Secondly, it will be the only institution in the country projecting the true image of our nation, both to the Indians and also to the foreigners. Thirdly, 'the need of the hour is discipline' and this Museum will, perhaps, be the best source of motivation and inspiration. 'Seeing is believing' and the sight of these 'arms' which upheld our banner in the odd times will naturally mobilize the people to 'their service before self'. Fourthly, the arms which are scattered in the length and breadth of the country will be brought under one roof. At present no real work has been done in the field of arms, no records have ever been maintained and no effort has ever been made to identify or classify these weapons. This Museum will make a beginning. Fifthly, it will project the socio-economic-political condition of the periods which these arms represent, both past and present. Sixthly, it can be constituted as an institution functioning as a useful and essential medium for educating the Indian citizens in developing a rational and liberal perspective in the history, culture and art of man. Lastly, it will promote the tourism, as many persons will be thrilled to see the traditional weapons of our country hitherto unknown. Already the export of old Indian arms is in full swing and they are in great demand in the markets of America, Europe and Australia. This museum will help in retaining the good pieces within the country and in allowing only those less valuable and non-antiques to go out.

There is only one alternative to this proposal *i.e.*, a bigger, a gigantic and a fabulous War Museum like that of the National War Memorial Museum. Till that comes up, there is no alternative. Many more such museums need be opened in the near future, at least one in the capital of each State. As explained earlier, the old arms are rapidly disappearing and if these are not collected on war-footing the very idea of setting up an Arms Museum will be defeated. This work has already been neglected for too long and in the interest of our national heritage, our national integration and our national defence, it has to be taken up without further delay. Since the Government had already agreed to open a huge War Museum, involving several lakhs of rupees, it will have no objection, at any stage, for a similar museum in a humble way.

Procurement And Acquisition Of Arms

1. Some of the Defence organisations contain huge collection of old arms and if a proper selection is done by an expert, many good examples can be selected for the proposed Arms Museum. In the Ishapore Rifle Factory, Ishapore, West Bengal, alone about ten thousand firearms of different kinds are piled up. Similarly, the Ordinance Factory, Jabalpore, also has a few hundred old arms dumped in its stores. Many of the regiments, the defence godowns and stores are said to have in their possession some excellent weapons having museological importance. All that is required is to depute an expert who can go round these depots, etc., and make a proper selection. These arms can be acquired almost free of cost or on a long-term-loan basis.

2. Many of police stations and the police headquarters are said to have in their custody hundreds of confiscated weapons. Incidentally, it may be pointed out that in 1948 or so about 4000 weapons were brought to the National Museum, New Delhi, free of cost, which originally formed the part of the arms confiscated during the Hyderabad Operation.

3. The National Museum, New Delhi, has been lending arms on permanent loan basis to the different museums. The Bharat Kala Bhawan, Varanasi; the N.D.A. Museum, Kharakvasla, Poona and the Government Museum, Simla, have borrowed quite a good number of arms from the National Museum, New Delhi. A request can be made to the Director, National Museum to spare about a hundred good examples. Similar requests can be made to the Patiala Museum, Patiala, the Alwar Museum, Rajasthan, etc., to spare their second best pieces on a long-term-loan basis.

4. The Patiala Museum, Patiala, is willing to exchange its 5000 weapons, other than those on show or in the reserve, with other objects of art, *i.e.*, paintings, sculptures, etc. That museum can be persuaded to lend a few hundred of their weapons.

5. With the abolition of the privy purses and other privileges the erstwhile princes have been asked to obtain licences for their weapons, etc., in their armouries. Some of the princes are willing to donate a few pieces to the Government. Nineteen such weapons were presented a few years ago to the War Memorial-cum-Defence Museum (kept under the custody of the National Museum, New Delhi since that Museum has not come up so far), New Delhi. An expert may be deputed to visit all or most of these armouries to explore the possibilities of getting weapons from them either as gifts or at a nominal cost.

6. Recently it has been discovered by the Director General of the Archaeological Survey, New Delhi, that a Cannon Foundry, the only one of this kind so far known in the country, has been located inside the Jayagadh Fort, Jaipur (the personal fort of H.H. Jaipur). At any cost this Cannon Foundry must be preserved *in situ* and, if possible, transported to Delhi, which is a much more centrally located place. If not, its photographs from different angles (or its model) can be obtained and exhibited. A few other foundries or workshops can also be explored, which have not seen the light of the day so far.

7. Every month many varieties of arms, together with other art objects, are submitted before the Expert Committee on the Export of Non-antiquities, Archaeological Survey of India, New Delhi, for getting the export licence. Some of them are declared antiquities (and also many fire arms, though non-antiquities, yet being rare and fine) and are not allowed to go out of the country. Since the dealers invariably quote a very low price for such pieces in order to save the taxes, it is advisable to buy some of these arms, though non-antiques yet very valuable, through the Archaeological Survey of India, New Delhi, at the price declared by the dealers. Incidentally, the Antiquity and Art Treasures Act, 1972, has empowered the Director General of the Archaeological Survey, New Delhi, to acquire the antiquities compulsorily, if they are found useful in the public interest.

8. A huge collection of old arms is buried in one of the tunnels of the Golconda Fort. It is rightly surmised that many of the important forts in our

country must be hiding huge heaps of arms, some of them being of museological importance, looking to us for their redemption.

9. Recently an old lady had proposed to donate her big arms collection, mainly of the Maratha school, to the Archaeological Survey of India, provided a separate arms museum is set up and her name is recorded as a donor. If encouraged, many more individuals may come forward. A few years back a lady presented about two dozen weapons to the National Museum, New Delhi.

10. The reputed exporters of Delhi, Udaipur, Jodhpur, Bombay, etc., who have quite a good number of pieces with them, may be contacted.

11. Some of the private individuals (*e.g.*, Morarji of Bombay) are said to have weapons of historical importance. They can be persuaded to dispose them off either as a gift or as sale.

12. Many police lines (*e.g.*, Police Station, Junagarh) are said to have huge collections of old arms and those found suitable may be acquired.

13. The U.S.I. Library, Kashmir House, New Delhi, has a good collection of medals and badges. These may be borrowed. Similarly, the war trophies, the uniforms, the badges, the medals, the war vehicles, etc., can be gathered from the different departments of the Ministry of Defence.

14. Many of the Regiments will like to lend or present a good number of the relics, the weapons and other accessories, used by the soldiers of Regiments. It will glorify their image too and through a museum exhibiting their uniform, etc., they will be much better understood and appreciated by the general public.

15. The Archaeological Survey of India can be of the greatest help in lending the pre and protohistorical tools and weapons.

16. The confiscated items (during the war time) will always reach such an Arms Museum, if the Ministry of Defence is convinced that they will serve a better purpose there.

17. In any case the Arms Museum will have to spend some amount on the purchase of the arms from the open market also *i.e.*, the curio shops, the antique gun dealers etc., because all that is required by a museum cannot always be got as gifts.

DISPLAY AND GALLERIES

Gallery No. 1

PRE-AND-PROTOHISTORY

Panel 'A'	**Stone Age Tools**
(I)	Early Stone Age Tools.
(II)	Middle Stone Age Tools.

(III) Late Stone Age tools.
(IV) New Stone Age tools.
(V) The making of Stone tools (diagram).
(VI) Grinding, polishing and hafting (diagram).
(VII) Stone Age Man and his surroundings (diorama).

Panel 'B' **Indus Valley Weapons**

(I) Arrow-heads.
(II) Swords and dirks.
(III) Daggers and knives.
(IV) Spears and lances.
(V) Fortification and navy (photographs).
(VI) Indus Valley warfare (diorama).

Panel 'C' **Copper-hoard Weapons**

(I) Harpoons.
(II) Atennae swords
(III) Flat celts.
(IV) All-purpose-weapon commonly known as 'anthropomorph'.
(V) Other weapons and tools.

Gallery No. 2

Archery

(I) Bows through the ages (chart).
(II) Arrows through the ages (chart).
(III) Ancient bows and arrows.
(IV) Medieval bows and arrows.
(V) Quivers through the ages (chart).
(VI) Equipments of archery.
(VII) Typed copy of the *Dhanurveda*,—a treatise on Indian archery.
(VIII) The photographic enlargements of the folios of the *Babur-Nama* and other rare manuscripts illustrating the use of bows and arrows in war.
(IX) The photographic enlargements of the historical bows and arrows preserved in the museums and private collections.
(X) Drawings and paintings showing the modes of shooting, etc.

Gallery No. 3

Swords and Daggers

(I) Swords through the ages (chart).
(II) Swords as gathered from the paintings, the sculptures etc.
(III) Medieval swords.
(IV) South Indian swords.
(V) East and West Indian swords.
(VI) Ceremonial and ritualistic swords.
(VII) Inscribed, decorated, enamelled, ornamented swords and those studded with precious stones.
(VIII) Different kinds of daggers.
(IX) Hilts of swords and daggers.
(X) Sheaths of various designs.
(XI) Sword-and-dagger-belts.
(XII) Operation (diagram).
(XIII) Historical swords.

Gallery No. 4

OTHER WEAPONS

Panel 'A' **Spears and Javelins**

(I) Different kinds of spears.
(II) Varieties of javelins.
(III) Forms of *barachhas*.
(IV) Portraits of warriors holding the spears, the javelins and the *barachhas*, etc.
(V) Historical spears (photographs where the actual specimens are not available).
(VI) Modes of operation (drawing).
(VII) Paintings of some famous battles (like 'Haldighati Battle').
(VIII) Portraits of some famous spearmen like Maharana Pratap, etc.

Panel 'B' **Clubs**

(I) Clubs through the ages (drawing).
(II) Different kinds of clubs depicted in the paintings, the sculptures, the coins, etc. (photographs).
(III) *Gurj*, *gurj-tabar* and *parigha*.
(IV) The Medieval clubs.

(V) South Indian clubs.
(VI) Mythical, ceremonial and ritualistic clubs.
(VII) Modes of club operation (drawing).
(VIII) Portraits of the famous clubmen like Bhima, Hanuman, etc.
(IX) Paintings depicting the use of club in actual warfare.
(X) Sketches of some clubs, both mythical and historical.

Panel 'C' Battle-axes

(I) Battle-axes through the ages (sketch).
(II) Axe, battle-axe, *tabar* and *tabar-jaghnol.*
(III) Different kinds of *parashu.*
(IV) Portraits of Parashuram and other experts.
(V) Paintings depicting the *parashu.*
(VI) The Medieval battle-axes.
(VII) Battle-axes as gathered from the sculptures, the coins, etc.

Panel 'D' Tridents

(I) *Trishula, shula, panch-shula.*
(II) Portraits of Shiva, Kartikeya, etc., holding these weapons.
(III) Different kinds of actual tridents.
(IV) Tridents with iron handles and studded with semi-precious and precious stones.
(V) Operation.
(VI) Indian tridents outside India—in Ceylon, Java, Sumatra, etc.
(VII) Ceremonial *trishulas.*

Panel 'E' Mythical Weapons

(I) Photographic enlargements of *vajra*, *pasha* and other mythical weapons as gathered from the sculptures, paintings, etc.
(II) The ceremonial and the ritualistic weapons.
(III) The origin and developments of *chakra*, *vajra*, etc. (drawing).
(IV) Their modern counterparts, if any.

Panel 'F, Miscellaneous Weapons

(I) Ornamented and damascened arms and those having *jauhar* patterns, *zarnishan*, *koft*, *Ganga-yamuni*, etc.
(II) The curious weapons.

(III) The composite weapons like the spear fitted with the pistol, etc.
(IV) The concealed weapons, like *gupti*, walking sticks containing hidden weapon, etc.

Gallery No. 5

Flags, Banners, Badges and Medals

(I) Ancient Indian flags through the ages (coloured drawing).
(II) Flags of the regiments.
(III) Medals of different kinds.
(IV) Badges.
(V) Banners.
(VI) Regimental colours.
(VII) Formation signs (outdated ones).
(VIII) Ranks and insignia.
(IX) Regimental crests.
(X) War amulets and charms.

Gallery No. 6

Military Archives

(I) War literature.
(II) War posters.
(III) Historical letters, war commands, personal letters of the soldiers etc.
(IV) Operation chart (outdated).
(V) Portraits with a brief biography of the famous warriors, past and present.
(VI) Press clips, newspaper-cuttings and other documents.

Gallery No. 7

Armour

(I) *Zirh-bakhtar*, chain-armour and plate-armour.
(II) Headgear (helmet).
(III) Different kinds of body-back-and-chest-armour.
(IV) Back-scratchers.
(V) Hand-armour, leg-armour and feet-armour.
(VI) Back-protector.
(VII) Shields : kinds, designs, material, decoration etc., through the ages.

Gallery No. 8

Uniforms

(I) Uniform through the ages (coloured drawing).
(II) Dresses of the soldiers (ancient and medieval).
(III) Uniforms of infantry, cavalry, elephant-riders, etc.
(IV) Uniforms of the regiments.
(V) Equipments of the modern soldier.

Gallery No. 9

Animal Fitments

(I) **Elephants** : *howdahs*, armour, *ankusha*, back-covering, decoration, weapons, etc.
(II) **Horse** : Saddle, stirrups, rein, armour, weapons, cavalry through the ages (coloured drawing), famous war horses like Chetak (painting).
(III) **Camels** : *Kathi*, weapons, armour, equipments. (Dummies can be prepared and very heavy pieces like the *howdah*, etc., can be displayed in the hall or the corridors, etc.).

Gallery No. 10

Mughal Room

(I) War-miniatures (original or reproductions).
(II) Folios from the *Babur-Nama*, the *Tarikha-i-Khandan-i-Tīmuria*, etc., (original or reproductions).
(III) Historical weapons of the Great Mughals (Babur to Aurangzeb).
(IV) Manuscripts on the war, warriors and weapons.
(V) Famous Mughal warriors (portraits).
(VI) Famous battles (sketches, plans and battle-arrays).

Gallery No. 11

Maratha Room

(I) Portraits of Shivaji and other Maratha Generals.
(II) Maratha weapons like *maru*, *bhid-chir*, tiger-claw etc.
(III) Weapons used in the guerilla war.
(IV) Edged-weapons.
(V) Fire-arms.

Gallery No. 12

Sikh Room

(I) Portraits of Guru Gobind Singh, Maharaja Ranjit Singh, etc.
(II) Sikh miniatures depicting the war, warriors and weapons (original or reproductions)
(III) Famous Sikh battles and the weapons used therein.
(IV) Sacred weapons—personal weapons of Guru Gobind Singh (original or their models).
(V) Sikh fire-arms.

Gallery No. 13

Rajput Room

(I) Weapons and accessories.
(II) Famous warriors (portraits).
(III) Rajput war-miniatures.
(IV) Historical weapons of the Rajput Generals.
(V) Edged-weapons.
(VI) Armour.
(VII) Fire arms.

Gallery No. 14

South India Room

(I) Weapons from the Andhra Pradesh.
(II) Weapons from the Karnataka State.
(III) Weapons from the Kerala (Nayar arms).
(IV) Tamil arms.
(V) Tanjore arms.
(VI) Chola and Pandya weapons.
(VII) Armour.
(VIII) Fire-arms.

Gallery No. 15

Photo Gallery

(I) Photographic enlargements of the famous battles of India, *i.e.* Kalinga; scenes from the *Ramayana* and the *Mahabharata* war.
(II) Hydespes and other ancient Indian battles.
(III) Tarain, Panipat, Sikh, Maratha battles etc. (medieval).

(IV) Battles fought with the East India Company.
(V) Forts and fortifications of India (photos of important forts).
(VI) Artillery used in the siegecraft (photo).
(VII) Army on the march.
(VIII) Actual war photographs.

Gallery No. 16

The First War of Independence

(I) Portraits of Laxmi Bai, Tantya Tope, Nana Rao, etc.
(II) Enlargements of the actual fighting scenes.
(III) Weapons (both edged and fire-arms), used by the Indian and British soldiers.
(IV) Artillery.
(V) Important sites—their photographs.
(VI) Peoples' participation.

Gallery No. 17

Fire-arms

(I) Early Mughal cannons.
(II) Matchlock guns, elephant-and-camel-guns.
(III) Flintlock guns, pistols and carabines.
(IV) Percussion-cap guns.
(V) Wheellock snaphaunce.
(VI) Breech-loading fire-arms.
(VII) Inscribed and decorated fire-arms.
(VIII) Pistols and revolvers.
(IX) Manufacturers and embellishments (photo).
(X) Decorated, damascened and chiselled fire-arms.
(XI) Rifles : single barrelled, double-barrelled, over-and-under.
(XII) Grenades.
(XIII) Tanks, anti-tank guns, anti-aircraft guns, etc.
(Heavy weapons like the captured Pakistani tank (un-serviceable), etc., can be exhibited near the gate).

Gallery No. 18

1962 Room

(I) Fighting scenes-terrain.
(II) Equipments, uniforms, and weapons used by the soldiers.
(III) Martyrs (photographs).

(IV) Captured weapons, uniforms, etc.
(V) Peoples participation.
(VI) Press-cuttings

Gallery No. 19

1965 Room

(I) Role of Navy (photographs).
(II) War heroes.
(III) Role of Airforce (models).
(IV) Weapons used.
(V) Captured Pak material.
(VI) Second line of defence.

Gallery No. 20

World War I

The same treatment as for No. 18 and 19.

Gallery No. 21

War Accessories

(I) Camping equipage.
(II) First aid.
(III) Defensive equipments.
(IV) Signal system.
(V) War musical instrument.
(VI) Desert warfare.
(VII) Hill equipments.
(VIII) Paratrooping.
(IX) Trench tools, etc.
(Navy and Air Force have not been included).

Care of Objects

Restoration and preservation is a highly technical job and in most of the renowned museums the laboratories and the expert chemists are available who take every care of the damaged, faded, and rusted specimen but it may pose a very serious problem before the Curator of a War Museum, not equipped with the expertise or the instruments or the chemicals, to take care of the weapons. Here only a few hints are recorded which are for a layman and as an immediate measure to be adopted. The best course, no doubt, is to consult a chemist and send the specimen to the laboratory itself.

In a museum of arms and armour the most important thing is the preliminary cleaning. The rust is the prime enemy of arms and it is very rare to find any weapon without some rusting. The first step, therefore, is to arrest the rust that is present and at the same time reduce the chances of further deterioration. The patches of the hard blackened rust should be removed by scratching them with a copper coin which, being softer than steel, will not leave marks on the surface. The entire weapon should then be wiped over with an oily rag. The oil can be left to soak into any existing rust to facilitate later cleaning.

Before any polishing is carried out the entire surface should be scrubbed with a strong detergent and stiffish brush which will remove the ingrained dirt and then the weapon should be completely dried. The foremost principle in cleaning or restoration applicable to any museum object including the arms and armour is not to damage or distort the specimen under any circumstances and it is always better to underclean rather than overclean. It it very dangerous to put the edged-weapons to buffing wheel. No doubt, it restores the brightness of the steel in a quick and cheap manner but in this method the inscription, the inlay marks, the blueing and the damascening, etc., may all be damaged or even destroyed. It is, therefore, advisable to adopt a slower but safer method. Fine oiled emery cloth, steel wool or jeweller' emery should be used and worked gradually over the whole surface. When the rust is removed a fine grade sandpaper can be used to give the blade a mirror finish, whenever advisable.

Special care has to be taken while cleaning a sword or dagger-hilt which generally bears decoration or embellishment. Any inlay, damascening, gilding, etc., should be treated with caution thinking that any thing lost can never be regained. On no account any abrasive should be used on the decorated parts of the weapon. The cleaning with soap and water and applying gentle metal polish is all that should be done in these matters.

The blued metal does not rust but any scratching which destroys the protective coloured layer will expose the bare metal and the rusting will start. If it has happened in some case it is advisable to remove the rust even at the cost of damaging the blueing a little more lest, in course of time, the rust should spoil the whole specimen. No attempt to reblueing the exposed surface should be made and for that matter it is never wise to add new elements, in the name of restoration, to the weapon as the result is likely to appear worse than the fault.

The modern cleaning materials can be used in case of the gold and silver hilts. The brass hilts may require a gentle rub with an abrasive if the tarnishing is very bad. A number of rust-removers are available in the market which can be effective if used with caution and after strictly following the instructions supplied with each chemical.

The plain steel scabbard can be treated in exactly the same way as the blades while the leather or velvet ones will require an application of leather or velvet dressing. The broken scabbard can be repaired, if possible, by providing an inside support.

Documentation

Once an object is cleaned the most important thing is its documentation. The different museums have adopted the different methods but the only important thing is that the recording should be as complete as possible. First of all every weapon should be recorded in the Accession Register. The bigger museums even use two different kinds of registers known as the General Accession Register (in which all the objects of that museum are recorded briefly as soon as they arrive) and the Classified Accession Register (where the objects of a particular section like the arms or armour or the painting, etc., are recorded with full details).

Then the Index Cards (also known as 'loose-leaf folders' or 'separate cards') and Catalogue cards are prepared. In a smaller museum a detailed catalogue card can serve the purpose of an Index Card also. The following headings are suggested and these may be expanded or contracted as required :

Sword

Accession Number : 79.50
Type of Weapon : Mughal Sword (*shamshir*)
Overall length : 2′ 9½″ (or cms.)
Date or Period : *c.* 1700 A.D.
Provenance : Delhi

Hilt

(*i*) Pommel : Pistol-grip-shaped
(*ii*) Grip : Iron fitted with ivory cheek.
(*iii*) Knuckle-guard : None
(*iv*) Quillons or guard : Long and slender with tops at each end.

Blade

(*i*) Description : Curved, single-edged, watered steel blade.
(*ii*) Length : 2′ 4″ (or cms.)
(*iii*) Width : 1½″ (or cms.)

(*iv*) Inscription, marks, etc. : Inscription damascened in gold and reads 'Asad-ullah'.

Sheath

(*i*) Description : Wooden sheath covered with black leather.
(*ii*) Mountings : Silver *muhnal* and chape.
(*iii*) Length : 2′ 4½″ (or cms.)
(*iv*) Width : 2½″ (or cms.)

General Remarks

(*i*) Similar weapon has been reproduced by W. Egerton, *Indian* and *Oriental Armour*, reprinted (London, 1969), pl. XIII, fig. 614.
(*ii*) Value—Rs. 2000/-
(*iii*) Condition—Blade rusted, sheath slightly damaged.
(*iv*) Source of Acquisition—Purchased from M/S Curious House, 14, Sunder Nagar, New Delhi.
(*v*) Storage—Almirah No. 2, top shelf.
(*vi*) Any other details.

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THE TREASURE TROVE ACT AND THE GOVERNMENT MUSEUM, MADRAS

N. HARINARAYANA

Having been enacted in 1878 the 'Indian Treasure Trove Act, 1878' (as it is called) is just a hundred years old, and it is worth reviewing its usefulness as a means of acquiring and preserving material "of very high antiquarian and historical interest".[1]

The Act itself was the result of the dissatisfaction of the then British Government in India with the state of affairs regarding treasure troves. "The law of treasure trove is in a very unsatisfactory state.........Moreover, the law everywhere is bad and inaffective and gives every inducement to finders to conceal or make away with their discoveries", says the 'Statements of Objects and Reasons' introducing the Bill in the Gazette of India, 1876, Part V.p. 1463. It goes on further stressing the need for such an enactment: "Yet there is a good deal of treasure buried in India and much of it of very high antiquarian and historical interest". Moreover, the modality of its drafting is indicated: "The Bill adopted the principle of certain recent legislation in the north of Europe, which has practically worked well". It is the European experience and the European approach to antiquity that is at the bottom of it *viz.*, the idea that things of "very high antiquarian and historical interest" need to be acquired and cared for as manifestations of man's achievement and activity in earlier periods of his life on earth.

It is interesting to note that the idea of treasure trove was not unknown to our country in ancient times. Both P.L. Gupta[2] and John W. Spellman[3] have quoted ancient instances of the disposal of the treasure, chanced upon by someone while digging the earth. Spellman points out that the ancient Indian position was that the king had the right to all the treasure dug up from the earth; "his claims were supported by theories which had recourse to his position in relation to the earth either as its husband or protector". P.L. Gupta after reviewing the ancient Indian ideas about the treasure trove recounts two anecdotes relating to the Muslim rulers in the matter, both of which imply that the Muslim kings felt that the treasure belongs to the finder. "Whom God thinks worthy, He bestows with the wealth. So return those *asharfis* to the man", ordered Sikander Lodi, the ruler of Delhi (1488-1517 A.D.) to the Governor, when the latter had seized a treasure found by someone in the kingdom. However, P.L. Gupta remarks that "the author of the *Tawarikh-i-Shahi* has recorded these anecdotes to impress the personal virtues of Sikander Lodi. They hardly reflect the fact that the treasure belonged to him who found it. On the other hand, the claims made by the Governor suggest that the State had some interference in the matter of treasure troves."

But nowhere implied the principle that the treasure trove is to be vested in the king for its very high antiquarian and historical interest. Its material value appears to have weighed more with them. It is when we come to the Indian Treasure Trove Act of 1878 that we find a transparent intention in the Act and in the Rules framed under it to acquire the materials of a treasure trove and preserve them in museums or institutions like the Asiatic Society which had well defined interest in the historical and antiquarian studies. As a result many treasure finds, which have added new dimensions to our knowledge of Indian history and art, adorn the collections of museums : otherwise we might have been deprived of these acquisitions. This itself is a signal service done by the Act to the scholarship in Indian art.

Thus, for the Government Museum, Madras, it has proved to be an important means of obtaining valuable objects of historical, archaeological, anthropological and artistic interest. The treasure troves are reported constantly from the various districts of the State and after being put through the due process of the Act, are brought to the Museum to enrich its collection of antiquities and art objects. In the span of sixty years, from 1919 to 1979, the total number of treasure troves reported to the Museum was over 800. A review of the treasure trove acquisitions in each of the sections would attest to the utility of the Act as an instrument for augmentation of the Museum collections.

The Numismatic collections were enriched by a singular variety of coins of gold, silver and copper, ascribed to the different dynasties and different periods of history. In the *Catalogue of Coins in the Collection of the Government Central Museum*[4], published in 1874, mention is made of nine treasure trove finds of Roman coins between 1787 and 1856. Of these, only some coins from the last treasure trove find from the Madurai District were acquired for the Madras Museum by the Government order in 1857. Some of the hoards of coins found since then are well known on account of their significance, for example, the Mambalam Hoard unearthed in 1929-30, the Dowlishwaram Hoard in 1946-47 and the Andipatti Hoard in 1966. There are hundreds of coins in a find, sometimes there are just a few. Early in 1923-24, just two gold *varahas* of the Vijayanagar dynasty were found in Pati village of the Cuddapah District. 1924-25 saw the discovery of fifty-three punch-marked coins from Gudivada of Krishna District. The Roman coins of gold were unearthed in Gumada village of Vizag District during 1927-28 and in Veeravasaram of the West Godavari District during 1951. Till 1961, the Venetian coins in the coin cabinet of the Museum numbered fifteen and were catalogued by

T.G. Aravamudan and published with a scholarly introduction in the Bulletin series of the Museum. The find of one Venetian sequin of gold from Perambur village of the Tiruchi District, during 1960, of another two sequins from Pallapalayam of the Tiruchi District during 1961 and 122 Venetian coins from Pavithram village of the Salem District widened the scholarly perspective and a revised Bulletin is under preparation. In 1943, twenty Chinese copper coins were found in Vikraman village in the Tanjore District. The find of a gold coin of the Byzantine Emperor Leo III was a notable one in 1946-47. A number of coins of the Caliphate have been added to the Museum collection through the treasure trove finds : seventy-seven gold coins of the Abbasid Caliphs in 1951 from Pattuvaru Arasan in Malabar, ten beautiful gold coins of the Umayyads from Mananpoondi in South Arcot in 1957. Ten gold *panams* of Tipu Sultan were found in Chinnapumannur in Dharampuri during 1959. The discovery of well preserved lead coins from the Andipatti village of Chengam Taluk in the North Arcot District in 1966 A.D. was important because they had legends in Tamil Brahmi characters datable to 300 A.D.

Incidental to the unearthing of the coins are the finds of the containers of coins (Pl. 102). They come in various interesting shapes and designs and are worth studying.

It is not only coins that the ancient men buried underground, as a measure of security, but also ornaments of gold and silver. This is amply born out by the treasure trove collections in the Anthropology Section of this Museum. The treasure trove hoards received from 1931 to date in this section follows : gold objects, 174 and silver objects, 16. The variety of ornaments received is also amazing : gold ornaments in the form of *talis*, *bottus*, talisman chains, pendants, necklaces, neck-bands, *nagapadam*, *oddiyanam*, nose rings, toe rings, ring bangles, bracelets, medallions, anklets, etc., silver ornaments are in the form of chatelaines, *kolusu*, *arasilai*, votive offerings, rings, armlets, anklets, etc. These are also found in copper containers of interesting shapes. Other types of treasure trove finds pertaining to the Anthropology Section are those of Megalithic burials, pottery including burial urns, bowls, vessels, black-and-red ware or red ware, bones, iron objects, etc. These items give us a wealth of information about the people who made them and used them. The ornaments and other finds, being day-to-day items of use, tell us about the ethnological features of the lives of the people of those times, their customs and habits, their ceremonies, their cultural values. The jewellery themselves are indicative of the artistic designs which were popular in the earlier centuries and of the level of technological development attained by then. Melting metals and shaping them is no easy task and a technique is essential before the jewellery can be fashioned. That the people of those days could make them of intricate forms and delicate workmanship points to their skill and knowledge in handling these precious metals. The Vallalore jewellery was found in 1939 in a remarkable set of ornaments with fish, dragon, lion and horse motifs. Along with the jewellery, there were found gold coins of the Roman Emperor Tiberiaus indicating the Roman trade connection with the peninsular India in those times.

These treasure trove finds of coins and jewellery have been overshadowed by the steady flow of bronze images of all periods and places which have enriched the bronze collection of the Government Museum, Madras, and have made it one of the best. Between 1930 and the present, there have been 277 treasure trove hoards received in the Archaeology Section-sometimes a single item, invariably two or more. The Districts of Tanjore, Tiruchirapalli and South Arcot have been most prolific in this respect. The treasure trove finds have not only been of deities in bronze but a host of other objects like temple lamps, bells, winnowing pans in imitation of basket work, tripod stands, masks, ceremonial plantain leaves, chains of hanging lamps, votive *stupas*, a rattle (shaped like a lotus bud with stalk), tumblers, vases, conches and tridents—all in bronze.

A few examples of the outstanding bronzes acquired as treasure trove finds would serve to illustrate the immense utility of the Act for preserving our ancient heritage. The celebrated image of Nataraja that evoked a paean of poetic praise from Rodin, the great French sculptor of this century ("Today it is the immutable beauty in bronze. The imperceptible movement of light. One senses its immobile muscles, all in pencils of light, ready to spring up if the light but moves," he said in 1911 about this piece) was a treasure trove find from Thiruvelangadu, a village about fifty-nine kilometres from Madras (Pl. 103). An image of Somaskanda was obtained from the same place. Nagappattinam yielded a rich crop of the Buddhist bronzes ranging in date from the late Pallava period (the end of the 9th century A.D.) to the 17th century A.D. Over three hundred and fifty bronzes have been discovered and the existence of bronzes of different dates shows the popularity of the Buddhist religion in that region through the centuries. A solid copper gilt Maitreya image, datable to the 10th century A.D., was obtained from Maleyur in the Shiyali Taluk of the Tanjore District and points to the prevalance of gilding of copper at that time. A bronze of Vishapaharana was a remakable treasure trove find from Kilappudanur in the same District and is attributed to the late Pallava times. Of the bronzes acquired for the Government Museum, Madras, from the treasure trove finds at Tiruvenkadu in the Tanjore District, the Ardhanarishwara image is an exquisite piece, of supple form and fluent in detail and its importance is hightened by the presence of an inscription on it which states that the image was set up by Tippayan Uttama Chola during the period of Rajadhiraja I. An interesting group of images of Venugopala, Rukmani and Satyabhama, came from Chimakuriti and are beautiful examples of early Vijayanagar art. Mention must also be made of the four bronzes from Amaravati, dated to the 5th-6th centuries A.D., fragile and fragmented and yet showing glimmerings of the excellent technique and art in bronze casting that had been developed so early in our country.

These are the outstanding examples of treasure trove finds of bronzes. These and the many others that continue to come into the Museum collection enrich it.

Much attention has been focussed on the images found. As stated earlier, other ancillary objects are also discovered and deserve to be studied, for these throw light on the objects of daily use like bowls, vessels, vases, lamps, etc. of those times.

Another aspect that can be possibly studied is the condition in which the objects are found. One drawback in this matter is that some sort of rough cleaning may have been attempted by the finder in his anxiety to know what he had dug up. If only some means could be devised whereby the finds would not be subjected to any treatment and even samples of the soil in which they had been buried for centuries could be gathered, it is possible to gain valuable insights into the mechanism of corrosion of metals.

This review of the working of the Treasure Trove Act in Tamilnadu easily shows how valuable it has been as a means of preserving the ancient heritage. The procedures under the Act take time but have been so devised that when they are worked smoothly and systematically, the finder does not lose and the nation definitely gains. One possible misapprehension which may lead some persons to conceal their discoveries is that the Government will take away everything. The Act is very practical in this matter. It does not want the finder to lose. It compensates him for his finds, it provides for the payment of the material value of the finds, in case they are to be acquired by the Government. The quantum of such payment has been fixed as "a sum equal to the value of the materials of such value", the latter being intended presumably to be a nominal addition to compensate the parties for the antiquity value of the treasure. The finder of the treasure (one who came upon it by chance) and the owner of the land on which the treasure is found get three-fourths and one-fourth of the value of the treasure respectively.

The compensation is made for the finding of a treasure only if it is promptly reported to the nearest revenue authorities and handed over to them. This is the positive aspect of the Act, which seeks to encourage the prompt reporting of the finds. At the same time, it is severe on those who conceal their finds. Such treasures are confiscated by the Government and no compensation is to be made for them and the persons responsible for the concealment are liable to be "punished with imprisonment for a term which may extend to one year, or with fine, or with both". This is the deterrent aspect of the Act.

Over the years, some difficulties have croped up in the administration of the Act. Sometimes, in the case of finds of idols, the local people wish to instal them back in worship or build a shrine over them. In some cases, the finds were found in temple lands, and the images were retained in the temple. Such were the cases of some treasures found in Madhukkur, Tiruvenkadu, Sivapuram, Valamarkottai (all in the Tanjore District) and Veerapandi (in the Madurai District). As such cases are, few and far between it will be desirable to avoid the growth of this tendency in view of the value of some of these finds kept back *in situ* and the problem of their security in places in which they are retained. This is accentuated by the fact of the increasing appreciation of the commercial value of antiquities and the increased trade in them.

Similarly, the provisions of the Act and the Rules framed under it should be made known to the public at large so that the finders of treasures could be sure that they would gain the material value of their finds and they would be doing service to the scholarship and cultural studies if they would hand over the treasure undisturbed to the Revenue authorities, conversely, if they attempt to conceal their finds, they would attract the penal provisions of the Act. The framers of the Act and the Rules under it had sagaciously laid down that the finds acquired or confiscated by the Government should be kept in museums and preserved. This provision should be adhered to strictly so that the precious treasure trove finds have a safe and appropriate haven[5].

References

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2. Gupta, P.L., "Treasure Trove Laws in India—A Review", *The Journal of the Numismatic Society of India*, Golden Jubilee Volume, Vol. XXIII, Varanasi, 1961, pp. 37-151.
3. Spellman, John W., "The Ownership of Treasure Trove in Ancient Indian Polity," *ibid*, pp. 133 to 136.
4. Spellman, John W., *Catalogue of Coins in the Collection of Government Central Museum, Madras*, Government Press, Madras, 1874.
5. The author acknowledges the help rendered by Shri V.N. Srinivasa Desikan, Curator, Archaeology Section, Thiru N. Devasahayam, Curator, Anthropology Section and Shri N. Sankaranarayana, Curator, Numismatic Section, all of this Museum, in the preparation of this article.

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THE TEMPLE AND THE MUSEUM

R.D. TRIVEDI

The museum has often been called a temple of learning where a visitor gets into direct contact with a variety of objects and through them tries to understand the people who were responsible for their creation. But the relationship of a museum and a temple is much more intimate than what is generally acknowledged. While tracing the origin of a museum in India we refer to the *chitraśālās* of kings but overlook the institution of the temple which more or less served the purpose of a museum in ancient times with the only difference that its scope of activity was more comprehensive than that of a museum in our times. It is evident that the temple occupied a central place in the cultural life of the people around which the whole artistic activity moved about. The architects, the sculptors, the painters, the poets and the dancers etc., had a definite function to perform in a temple and thus had immensely to contribute to the religious as well as ṭemporal life of the society. The temple complex was a place where the life was seen as a whole irrespective of its sacred and secular compartment and similarly, the artistic activity had also to encompass both these spheres of life without any special favour for any one of them at the cost of the other. In fact, a caution has often been given to strike a reasonable balance between the *Dharma* (religious piety), *Artha* (worldly possessions) and *Kōma* (physical pleasures) so that no aspect of life is neglected and one who does not succeed in following such a balanced course of life is rated in the lowest order of human beings :

Dharmarthakāmaḥ samameva sėvyaḥ
Yastvėka sėvyaḥ sa narō jaghanyaḥ

A museum, specially an archaeological museum, presenting a large number of objects from the ancient temples has to project this view for the correct understanding of the objects. Keeping in mind this view of life and art in ancient times, the figures of *surasundarīs* (divine damsels), a large number of secular scenes and even erotic panels would not appear something out of place in a temple which is basically an abode of gods (*dėvālaya*).

It is a truism that most of the objects of an archaeological gallery of historical period in a museum, hail from some temple or belong to the one or the other architectural component of a temple—may be Hindu, Buddhist or Jain and thus a proper understanding of these objects necessitates a thorough knowledge of the architectural scheme of a temple. Whether a particular piece of sculpture belongs to a *bhadra* niche (niche on the central off set), a *karṇa* (corner) niche or to the other subsidiary niches, determines its comparative importance. A piece from a door jamb or from a particular lintel or moulding may have a different story to tell. An image with its iconographic and artistic details coming from the back *bhadra* niche of a temple will give a definite idea regarding itself and the temple to which it belonged. But an exactly similar image coming from the *adhisṭhāna* (plinth) or from a niche of the *anuratha* (subsidiary off set) part of a temple will offer a different idea. For instance, if an image of Nateśa has been removed to a museum from the western *bhadra* niche of a temple for the sake of its safe custody, this fact is to be clearly recorded, as it would not only indicate the correct position of the image in its original setting but would also provide the basic guidance for the study of the temple located far away from where the image of Nateśa, in question, has been shifted. With the help provided by the museum record, a student will immediately come to know, if no other evidence is available at the site, that the temple was dedicated to Śiva, as its western *bhadra* niche contained the image of Nateśa. The architectural cannons in this regard (*e.g.*, *Nateśaḥ paśchimė bhadre......Aparājita-prchchhā*, 127, 23) will also prove helpful only when the museum record in this particular respect is complete.

Thus it becomes imperative on the part of a museum to record the original placement of an image or an architectural member acquired from a temple alongwith its iconographic and artistic details. When a detached piece of an image or an architectural fragment is to be removed from a temple site, its original setting should be thoroughly ascertained and recorded before it is shifted to a different place or a museum. Devoid of its original context, a piece of sculpture looses much of its significance which can be recaptured to some extent by means of a factual and detailed documentation at the site. It may well be said that the visual reaction of a particular piece of art can be received even afterwards but the reference of its original setting once lost and unrecorded is lost forever. This sort of recording of sculptures from a temple has become all the more important in the present circumstances. Due to the danger of theft and damage of the sculptures in the temples situated in the remote areas, there is growing tendency to remove the loose sculpture and architectural pieces from the temple sites to the museums and sculpture-sheds often away from the sites. In this situation it is obligatory on the part of those who remove them from the site to prepare a detailed record, both written and photographic. Not only the site and the temple or the monument but also the original setting of the sculpture should be ascertained as best as possible. A few years hence, this documentation of the original setting of the sculpture will remain the only authentic record which will serve as a beacon for the correct understanding of the object thus removed and also of the temple from where it has been displaced. In the absence of such a record, we are left only to guess the original position, in the architectural setting of a temple, of the masterpiece like the world renowned *Yakshi* figure from Gyaraspur, not to speak of several other examples housed in the various museums of our country and abroad.

The discussion of the relationship of a temple and a museum brings to another fundamental question whether or not the images and the architectural members of a temple should be removed to a museum. It is obvious that, as far as possible, the components of a temple are not to be removed to a museum on at least three counts. Firstly, an image or an architectural member belonging to a temple looses much of its significance devoid of its place and monument and becomes less capable of communicating the ideas than it would be in its original setting. Secondly, the temple remains were not meant for being seen within the four walls of a modern building with its totally different atmosphere and setting. Thirdly, the purpose of the object of a temple, including the image, was altogether different from that of a museum. It is another matter if they, per chance, satisfy our curiosity regarding their times and artistic traditions, a function to which they were not originally meant for. A panel of sculpture or an architectural fragment, kept in the area of the temple of which it once formed an integral part speaks much more of the lost glory of the damaged temple than the same piece removed to a museum, however well presented, lighted and labelled it may be. But due to certain reasons, proper safety of objects being the major one of them, all the sculptures of a temple cannot be kept in their original setting and some of them have to be removed to a museum or a sculpture-shed. This necessary evil of shifting the sculptures from a temple to a museum can be successfully faced if only the least possible shifting is done. Their removal to a local museum or sculpture-shed is preferable to long distance shifting.

Another point which deserves our notice is the difference in our approach towards an image or a sculpture installed in a temple and a similar one displayed in a museam gallery. An image displayed in a museum gallery reminds us of the time of its creation, the artist who made it and the artistic qualities inherent in it. But an image or a sculpture installed in a temple represents something more than that. In the latter case the image transcends its time, artist and artistic quality and presents itself before a visitor or a devotee as thriving with life and a visitor gets at least a glimpse of what it would have meant in its own time and in its original setting. In other words, an image in a museum gallery solely becomes an object of the past brought to our own times whereas the same in a temple continues to be a living entity. That makes all the difference in the approach. When we further consider the meaning of the terms applied to the different parts of a temple such as *pāda* (feet); *jaṅghā* (thigh), *kaṭi* (waist), *grīvā* (neck), *kaṇṭha* (throat), *śikhara* (crest), etc., designating the corresponding parts of human body to understand that the architectural concept of a temple represents, the organic unity of eht human body of which each part is dependent on the other for its existence. Moreover, the body itself cannot make a living organism unless it is united with *jīva* (life or soul) and in the case of a témple the *jīva* is represented by the image or images installed in it :

Déhō devālayaḥ proktō jīvō dévaḥ sanātanaḥ (*Skandōpanishad*, *No. 11*),

and *mukhaṃ dvāraṃ bhavédasya pratimā jīva uchyaté* (*Agnipurāṇa*, *61*, *25*).

Thus while removing an image and a sculpture from a temple we should keep in mind that by doing so we are removing the very soul of the *prāsādapurusha* (temple in human form), an act which should be done when it is absolutely necessary.

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THEFT AND SMUGGLING OF ANTIQUITIES : SOME PREVENTIVE MEASURES

K.N. DIKSHIT

As remarked by a leading museologist "India at the present time is a definite major sufferer from the crimes of the illicit trade in cultural property". The art objects which should remain in the country as a source of enjoyment and scholarship for the generations to come are frequently plundered for easy money. The elaborately carved monuments and well guarded museums of the country are now subjected to thefts and raids. Not a day of a week passes without a news-item about the theft or damage to cultural property. A priceless Chola period Nataraja from Shivapuram was smuggled to U.S.A. A bold but unsuccessful attempt was made at Calcutta to export another image of Nataraja in some packages declared as books in the shipping bill. Images under active worship were removed from Chamba and Badrinath but the prompt action by the C.B.I. and Police foiled these attempts.

Stolen in 1965 from Bangiya Sahitya Parishad Museum, Calcutta, the bronze statue of Lord Vishnu was restored in 1974 to the Museum by the kindness of the authorities of the Boston Museum, U.S.A.—a gesture worth appreciating.

The sale and purchase of art objects is now an established business everywhere in the world. It is flourishing more as there is enormous profit in this transaction. The art merchants of every kind are multiplying in the world capitals as there is a craze for possession of antiquities. The craze has completely overtaken the promoters of these shabby deals that they have not hesitated even in shooting a guard of an Archaeological site museum dead who resisted the theft.

The artistic figures, which are largely found on the doorways, pillars, brackets, architraves and ceilings of the temples, are the main targets of the criminal gangs dealing in this trade. The stolen antiques generally include sculptures or their heads. In some cases the heads were removed by using special saws. In the field of miniature paintings, many notable examples of Kangra and Rajasthan schools in general, have already been smuggled out of the country. In the last twenty years the curio-dealers and the so-called cultured and elites have thoroughly combed the interior of the country and contacted more or less all the chiefs of the erstwhile states for the works of art.

The security aspect of this problem was not seriously considered in the past. Recently a group of officers from the National Police Academy, Mount Abu, tried to assess the problem of thefts in museums and suggested certain measures for preventing their reoccurrence in future[1]. This study also revealed that a number of curio-dealers or their agents are behind the crimes in lifting the objects from the temples, the historical sites and the monuments. The *modus operandi* of these criminals is just like other burglurs and thieves in general. For example, in 1962 silver trinkets were stolen from the Indian Museum, Calcutta, by using ladder and breaking open a window. In 1964 in the Junagadh Museum criminals entered by breaking the locks. In 1965 acid was poured on the lock of Bangiya Sahitya Parishad Museum, Calcutta, and the bronze statue of Lord Vishnu was stolen. In 1968 silver objects were removed by the burglar from the Prince of Wales Museum, Bombay, who hid himself in the Museum at the closing hours and came out through a window by climbing down a rope. In the case of the National Museum, New Delhi, the thief reached the roof of the building by climbing a drain pipe and came down from the roof by means of a rope. He cut the iron-grilled door with a saw and removed the jewellery. At Jaipur, the criminals entered the City Palace Museum through a large ventilator opening on the outer side of the store-room.

However, the most regrettable aspect of this problem is that some of the objects stolen from the museums, protected monuments or private temples are now adoring the public museums of the foreign countries. Some of the outstanding examples of Indian art are in the museums of the United States of America. A number of private collectors have also acquired bronzes, stone sculptures and terracottas from India. Famous among these are the John D. Rockfeller IIIrd Collection, New York[2]; Earl Morse Collection, New York[3]; Bickford Collection, Cleveland[4] and Mr. Jason B. Grossman Collection, Los Angles. It is also possible that managers of these collections may not be knowing about the shady deals of many objects which are on their shelves.

The Government of India was always conscious of its responsibility to protect the cultural property of all types from the illicit practices and commercial exploitation. It passed an Act in 1947, known as the Antiquities (Export Control) Act, 1947, but later on it was realised this the Act was not adequate in the changed circumstances. Therefore, a comprehensive Act was prepared on the subject. The Antiquities and Art Treasures Act, 1972, was passed by the Parliament. The present Act seeks to regulate the export trade in antiquities and art treasures, to obtain licence for those carrying on the internal trade of selling or offering to sell the antiquities, to get specified types of antiquities registered by every individual or private institutions, and to empower the Central Government to compulsorily acquire antiquities and art treasures for preservation in a public place. Under the provision of the Act every State has appointed officers for the registeration of antiquities.

As early as 1933 the League of Nations framed a convention designed to protect the cultural heritage of nations. In 1962 a seminar was organised in Paris at the instance of I.G.P.O.-Interpol on Organised Crime in Art Objects. It is said that the art criminals are often tutored by their receivers or promoters by showing a photo-print or a movie before they went out for the job. In this context, it may also be stated that a draft was persented in the UNESCO in November, 1970, on the 'Means of Prohibiting and Preventing Illicit Import, Export and Transfer of Cultural Property' from one country to another. It recalled the importance of the provisions contained in the 'Declaration of the Principles of International Cultural Cooperation' and also considered that the interchange of the cultural property among nations for scientific, cultural and educational purposes increases the knowledge of the civilization of Man, enriches the cultural life of all peoples and inspires mutual respect and appreciation among nations.

In order to have a check on the export of art objects and to advise the Customs authorities and intending exporters as to whether or not, an article, object or thing offered for export, is an antiquity as defined in the Antiquities (Export Control) Act, 1947 (31 of 1947), the Government of India had set up a 'Committee of Exports on the Export of Non-Antiquities' at each of the five major ports/airports, namely Bombay, Calcutta, Madras, Delhi and Cochin (with headquarters at Trivandrum). A similar Committee has also been set up at Varanasi. The officers of the Archaeological Survey of India have also been posted at these ports/airports for assisting the Customs authorities on the spot. All intending exporters of non-antiquities dealing specially in supply of the objects of brass, stone, wood and textile shall have to submit their application accompanied by three copies of the photographs to this Committee. After examination of the objects, if the Committee is satisfied that the objects are non-antiquities only then they shall be allowed to be exported. If any exporter is not satisfied with the decision of the Committee, he has a right to appeal to the Director General, Archaeological Survey of India, for re-examination.

The above outlined steps show the will of the Government for curbing the illicit trade. No act or step is foolproof unless and until the will and courage of the people is forthcoming to stop this nafarious activity completely. It would not be out of place to mention that the suitable reward should be given to the person who helps or informs the authorities for stopping the pilferage of objects in time. Public committees be formed in towns and villages connected with the centres of art objects for keeping a vigil. The Gram Panchayats be made effective in achieving the desired goal. If there is no theft in the jurisdiction of a particular Gram Panchayat, the District or the State administration should reward them by enhancing their grants or/also declare them as model Panchayats. Similarly, the

Police Stations could also be encouraged in taking prompt actions whenever any such complaint is received either from any individual or from an organised body as Public Committee for the Protection of Cultural Property or the Gram Panchayats. Topics on theft of art objects, etc., be also included in the curriculum of the schools thereby making the children conscious of such losses.

A global understanding be also developed between the different museums of the world. If the museums or the private individuals stop buying the art objects unless satisfied with the source of origin, this will also help in curbing the activity at the international level. If such effective steps are taken, there may not be any room for occurrence of such thefts or smuggling of the art objects.

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A NEW APPROACH IN ORGANISING AN ARCHAEOLGICAL SITE MUSEUM

S.S. BISWAS

The old concept of the museum as a storehouse of antiques or collection of precious objects has long changed. The museum, all over the world, is recognised as an educational institution with difference. This change in the basic concept makes it obligatory to review the approach to museum display. This realization in the outlook is considered as the foundation stone of the now growing science of museology.

Let us start with the premises that a museum, any museum for that matter, has an obligation to educate the public in a non-formal way. Our first problem, naturally, is to think how to achieve this aim ? We have, therefore, to think in terms of three different aspects pertinent to a museum, *viz.*, (*i*) **display** *i.e.*, **presentation**, (*ii*) **educational programmes** which include guided-tours, museum classes, popular lectures, film shows, etc., and (*iii*) **publications**. Here, however, we shall concentrate only on the methodological concept behind presentation or exhibition. In other words, we shall deal only with the conceptual or theoretical aspect of planning of an exhibition—not the physical aspect which concerns the actual display of objects.

The problem can thus, be summed up in the following : Given certain objects or a collection and a limited space, how do we proceed to educate the museum visitors by the presentation alone not taking the help of handouts or publications at the moment. We can have two main hypotheses in this regard :

(*i*) that an object-oriented display, popular in the old school of thought, lacks educational effectiveness for either students or public,

(ii) that the only way to achieve educational effectiveness of an exhibition is to make it problem-oriented, concept-oriented or thematic. In other words, each exhibition must tell a story—it must have a theme behind it and should be displayed clearly and vividly—it must not simply be a colourful display of the objects. We shall now explain what we mean by a theme or story but before we come to this point, we have another very important matter to consider—a matter which is a prerequisite to a successful educational display. The matter concerns another methodological approach in museology—that directed towards attracting the visitor's attention to an exhibit in question. To theorise, there may principally be three methodological approaches to the problem of presentation, considered from the view-point of attracting the visitors' attention. All the three approaches could be effective but the choice depends on the nature of the objects and the educational and intellectual levels of the visitors to which the exhibit addresses itself.

The first approach may be called the "**Aesthetic approach**" and is meant to appeal to the aesthetic sense of the visitors. Exhibitions of sculptures, bronzes, paintings, costumes, jewellery or decorative art objects are most effective with an aesthetic approach to display. In organising such an exhibition, the display incharge is primarily guided by the colour scheme, shapes and contours of the sculptures or other such items.

The second approach may be called the "**Dramatic approach**". It is difficult to define this approach which depends on creating an atmosphere of mystery, suspense, romance or fear (Pl. 104). A brilliantly spot-lighted exhibit, say, of an ancient burial at the corner of a comparatively dark room or a diorama of forest life with realistic plants and animals, for example, may be said to have a dramatic approach. This approach is always achieved by such devices as bright lights, dark colours or vivid realistic presentations. [The Museum of Indian Art, Berlin, is a good example of such a display. Editor.]

The third approach is principally for the students and intellectuals to whom it will appeal and may be called "**Scientific approach**". It relates to exhibits aiming at a presentation of scientific themes or data-factual and informative. This may be done by displaying charts, models, maps, etc., illustrating, say, the evolution of Indian temple architecture (Pl. 105) and evolution of the sun-worship in ancient India, cultural sequence of a site, etc. It should not, however, be assumed that the second and the third approaches are devoid of any rationale. That fact is, however, that by a combination of all these three approaches, by varying them from gallery to gallery, or from exhibit to exhibit, a successful museum curator will be able to attract the visitors from all levels of social structure and, at the same time, these methods will help in tackling boredom or museum-fatigue which are the deadliest enemies of the museum presentation.

Let us now return to the subject of exhibits. We have already noted that the object-oriented display has to be replaced by a concept or problem-oriented approach to make it educationally more effective. The exhibits, therefore, must tell a story or have a theme. Let us elaborate this point. We have, in our collection, in the Archaeological Museum, Konarak, sculptures of various subjects such as iconographic representations of Surya, Vishnu, Siva, Devi, Agni and other deities in their different manifestations as well as *nāyikās*, musicians, *mithunas*, scenes from daily life, flora and fauna of the region, etc. We can, as was in the olden days and in some cases even to-day, put these objects on well designed pedestals and in well-built and well-lighted display cases, labelling Surya, Vishnu, Siva, Agni, *mithuna*, musicians, birds, animals, etc. This would be an object-oriented display without a story to tell and without any particular theme. Let us now examine the thematic approach necessary for a concept-oriented display. At this stage it will be pertinent to take into consideration the nearby temple with its innumerable specimens of the images in their original position. Our purpose, therefore, would be to narrate to the visitors the story behind these visuals that has not been told on the temple walls. The long forgotten interpretations of those stories or themes for which these visuals were once created have to be revived again to understand the very purpose of their creation so that they can be fully understood. Comparative studies may also be initiated by displaying the photographs of other sun temples, maps, indication of their locations and other such material to understand the art and architecture of Konarak in all its perspective. With this aim in our mind, the objects are to be sorted out and grouped in different categories or themes, such as iconographic representations, scenes from daily life, *mithunas*, flora and fauna, etc.

At Konarak we have at present, three galleries ready for displaying the objects. Let us first choose one gallery for icons representing an aspect of each representation emphasising Surya to whom the temple is dedicated. The importance of Surya worship and the regions where he was worshipped can be shown through the maps, charts etc. Such a chart, on Surya, in the form of a transparency, has been developed at the National Museum under Sri C. Sivaramamurti's guidance. The second gallery can be devoted to the scenes of daily life and *mithunas*; specially the *mithunas* can be high lighted in this gallery. The *mithuna* is a subject often depicted in our temples and since it is vividly represented at Konarak (and Khajuraho as well), the theme needs to be explained thorougly. The idea behind this theme has long been forgotten and now it is generally misunderstood by the common visitors. It would, therefore, be our earnest endeavour to bring to the light the idea, purpose and nature of these visuals which once inspired the artists and their patrons to create them on the walls of these temples. The significance of these errotics may also be provided through an introductory label so that they may be seen and studied here in their proper perspective. Similarly, flora and fauna may be displayed in a separate gallery high lighting all their aspects.

The physical display, background, choice of display-cases, lighting techniques, etc., will follow the plan, followed by the publications of hand-outs, picture post-cards and other publications on various aspects of the temple.

Coming to the visitors now we find an important reason why the archaeological site museums or galleries fail to attract them and to be educationally effective is that it is physically fatiguing for an average visitor who comes to the site or to see the monuments and cannot concentrate on the exhibits of the same type which he had already seen in the temple. With the result that the visitors are forced to take a cursory, sketchy and superficial view of the exhibits. To avoid such a situation; both physical and mental, the entrance hall of the site museums should be kept cosy and comfortable with sitting arrangements and minimum exhibits. Few photographs, charts, maps, etc. may also be displayed in the hall connecting the exhibits with the monuments (Pl. 105). If similar monuments exist in the neighbourhood, information about them should also be imparted in this hall.

In the end, we may further emphasise that it is not enough to have a concept-oriented display only, but a combination of the three types of the approaches discussed above. We have to make the visitors involved with the exhibits for a sufficient length of time. In fact, if we succeed in getting them back again, it is still better. The imparting of information should be done in such a way that the visitors should not get conscious of it. Our methodological approach, then, should include provisions for resting at frequent intervals to prevent fatigue, provisions for diversions to prevent boredom, be it open space, flower-bed or a spring fountain or a cafeteria for snacks. According to Dr. Stephen Borhegyi "the museologist in order to teach, must first capture and hold the interest of a heterogenous, freely moving audience with a proved attention span of thirty seconds per exhibit case". How much information can be imparted by an exhibit in 30 seconds is a problem. The methodological approach in museology has to include all these considerations discussed above, only then the site museums can sustain the interest of the visitors. Since the archaeological site museums serve rural population, if arranged in thisway, they can play a more active role in educating the visitors.

Suggested Reading

1. Silver, Stuart, "Anatomy of an Exhibition," *Museum*, Volume XVIII, No. 4, Paris, 1965, pp. 259-264.

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THE PROBLEM OF IMITATIONS OF ANTIQUITIES

M.C. JOSHI AND K.S. RAMACHANDRAN

The practice of imitating or copying antiquities of old objects of art or records and documents was not uncommon to several countries of ancient Oriental and Occidental world. The factors responsible for producing replicas or imitations appear to be aesthetic craze, religious necessity, artistic need or economic or political requirements for art objects and antiques in a specific period. As a result of constant efforts to copy a particular class of artistic work sometimes helped in the emergence of new art idioms in some countries. In India's art history, too, such a development can be discerned; for instance, in the imitation of Gandhara style by ancient artist of Mathura which certainly had influenced the subsequent development of some specific traits of the Mathura School of art. However, imitations of coins and records prepared out of politico-economic necessity normally fall into the class of forgeries almost everywhere. In the Indian context also replicas of costlier coins in baser metals with silver or gold coats, showing greater face value than the intrinsic value, were produced and circulated by unauthorized agencies in the ancient period itself. Several specimens of imitations of antiques have been discovered in modern times by the scholars. Amongst ancient fabricated records mention may be made of the well-known Nalanda Copper Plate Inscription of year 5 of Samudragupta and the Gaya Copper Plate Inscription of year 9 of the same ruler. The purpose of introducing these fabrications was perhaps to advance claims for the possession of certain lands, believed to have been donated to some families in earlier times by their successors before some new ruler (government or their representative) in the post-Gupta times.

For similar or other reasons like proving some controversial point or justifying some action, forgeries were also done in the case of manuscripts in ancient and medieval times. There are even rumours of the compilation of forged accounts of construction, etc., relating to a monumental edifice in India in recent times.

However, our primary concern in this paper, is the imitations or forgeries of antiquities that are now being made in India purely for commercial purposes, especially with a view to amassing wealth through foreign markets, taking full advantage of the craze for Indian antiquities among the affluent nations. Such a development, in fact, was a direct outcome of western colonialism which was also responsible for the growth of subjects like Assyriology, Egyptology, Sinology, Indology, etc., and a desire for building collections of antiquities connected with the ancient civilizations. By the nineteenth century itself considerable interest for the study and possession of Indian antiquities grew amongst the Europeans. Perhaps some sort of trade, relatively on a smaller scale, also seems to have developed gradually. Cunningham in his writings, referring to forgery in ancient coins, mentions the name of one Chamanlal Saraf of Punjab who was a master in imitating Indo-Greek coins in the nineteenth century.

However, producing replicas of ancient sculptures appears to have started only in the twentieth century, and more so after 1947 when Indian contacts with outside world became much wider. The standard of imitations of sculptures and paintings is improving day by day and there are cases when a few of the reputed museums are said to have acquired such things under the impression that they were originals. In one instance, it is said, that certain imitators made copies of well-known Mughal paintings so skillfully that only a group of experienced experts could detect the mischief. Another interesting case was that of the substitution of certain sculptured pillars of stone at a site, by carefully forged ones. There may be many other cases of this type in India, since, of late, Indian imitators seem to have developed their skill considerably, yet it is not impossible, albeit difficult, to find out the originals with proper expertise and even by means of necessary scientific tests. Proper background of Indian art and experience in handling antiquities besides capacity for critical examination is certainly useful to a person to detect the fabricated antiquities, especially the sculptures, perhaps other than the bronzes and stucco figures,

In the following pages we have attempted to discuss some of the actual specimen of neo-antiquities (sculptures) of Indian origin observed by us in recent years, with a view to distinguishing the modernity of their features and other related aspects :

1. The sculpture (Pl. 106) is a representation of Ugra Nrisimha *avatāra* of Vishnu killing the domon Hiranyakasipu set in a frame (67 × 47 cm.) comprising two pilasters of late Mughal style supporting a lintel decked with a petalled-border with a *pūrṇakumbha* surmounted by *chakra* (?) in the central. The lower part of the pilasters are relieved with conventionalized devotees with *buddhanjali*, perhaps added as an after thought. The figure on the proper right has a *kirīṭamukuṭa* indicating a royal personage while the one on the left is that of a plebian; both wear *karṇakundalas*.

Nrisimha with his usual leonine face and ears, is adorned with a low *kirīṭa*, *kundalas*, *hāra* and *yajnopavīta*. Another *hāra* (broken) of larger beads, resembling *rudrāksha* hangs from the left shoulder. He wears *dhotī* and other conventional ornaments like *katakas*, *valavas* and *padanagadas*. The right leg of the deity is placed on the right knee and the left on the left ankle of the demon or *asura*, almost in an attitude of riding or trampling the *asura*. On the other hand the *asura* is shown sitting with his right feet planted firmly, with knee bent and the left leg is slightly stretched backwards with the knee touching the ground. The demon has in his right hand a *khadga* while the raised left has *kheṭaka*. He wears the usual ornaments. Nrisimha is depicted holding the tuft of Hiranyakasipu with his left hand. The figure of God has eleven pairs of hands; all, excepting four, showing closed fists indicative of holding some *āyudhas* not clearly shown. The distinctly visible weapons are a sword and shield in the uppermost hand on the proper right and left besides a dagger in the lowest right. The delineation of the figure, although marked with conventionalism, is not totally deviod of artistic merit although not perfectly proportional within the presented norms.

2. The second figure (Pl. 107), also of wood, representing the same theme, is almost similar to the earlier one although without the decorative frame. It compares well with posture of the god and the *asura* as well. The long beaded *mālā* is shown as passing over both the shoulders. In this case too the deity has eleven pair of hands holding a *khadga* in his upper right and a *kheṭaka* in left. The tuft of the *asura*, who faces front unlike the previous example, is held by the left lowest hand in the same way. What is interesting is that Nrisimha holding what looks like a *khadyānga*, a shivite *āyudha*, in one of his right hands.

The *asura* sitting in the same posture as in the earlier figure holds a club in the right (instead of the sword) and a *kheṭaka* in the left hand and touching the ground. The facial expression in this case presents a contrast to the previous figure where the *asura* has a defiant upward looking posture. The latter figure indicates object submission.

3. The figure (Pl. 108) of standing Lakshminarayana (87 × 41 cm.) appears to have been modelled after the images of *Ālinganachandraśekharmūrthi* aspect of Shiva and Parvati in the Central Indian Style. Vishnu has four hands, two on each side. In the upper right he carries *shankha* while the lower holds or rather just touches hilt of what remains of a *gadā*. The *chakra* is held by the upper left hand streched over the shoulders of Lakshmi and with lower left Vishnu is shown pressing breast of his consort. A strange feature of the image is the *jaṭāmukuṭa* of Vishnu while Lakshmi is adorned with an attractive headdress of the usual type. Both the figures are adorned with the normal conventional ornaments and dress. The right arm of Lakshmi is placed around the neck of Vishnu while the left carries a circular mirror. A devotee stands to the right of Vishnu.

4. Carved on a triangular piece of black stone the head (Pl. 109) measuring 40×26 cm. was intended perhaps to represent some Shivite deity. The well sculptured face with closed contemplative eyes and systematically arranged *jaṭās*, partly falling on the sides with rows of short curls looking the mini *nāga* hoods above around the head, presents a charming composition based on the developed classical tradition.

The most curious feature of the sculpture is the seated Buddha like figure, seated in *dhyānamudrā* on a *padmaptīha* within an arched and decorated *prabhāmanḍala*. It is difficult to identify the figure as Shiva as the distinctive third eye has not been shown. Alternatively to deem it as a figure of Bodhisattva Avalokiteshvara is also difficult as confirmatory features are lacking.

5. The sculptural representation in wood (Pl. 110) of Krishna and Radha (72 × 31 × 22 cm.) under the *pārijāta* tree in an amorous pose wearing a *kirīṭa* and other common ornaments and the usual is shown as standing on a lotus pedestal. The most striking feature of the relief is the peculiar pose of Krishna and Radha in which the former balances his body on the toes of his right leg while the left encircling the waist of Radha dangles in the air. His right hand is in the flute-playing posture, while the left holds the waist of Radha. Standing amid the legs of Krishna, Radha's right leg is raised simulating a dance pose with left one resting firmly on the ground. Her raised left hand appears to support the other end of Krishna's invisible flute. The foliage above them looks more like a canopy of a multi-hooded *nāga*. It is interesting to note that this tree is also issuing from the same *padmapīṭha*.

6. Two bronze images (Pl. 111-112) of a male and a female (in round) standing on a common double-convex *padmapīṭha* are in an apparently dancing posture. The male is on the proper right while the female is to the left. The male has its right foot firmly planted while the left is very slightly bent with the foot at right angles to the left and the toes slightly raised. The right arm is in imitation of that seen in the *Vrishavāhana* Shiva images and the other is extended towards the back of the female as if to hold her by her waist. A sort of *kirīṭa* adorns the head. The ears have extended lobes. The figure is clothed upto the knees and is well-ornamented with *kankaṇas*, *keyūras*, *hāras*, *yajnopavīta*, anklet, waist-band, etc. The male is looking straight at the face of the female. The female, standing at an angle to the male, has both her legs slightly bent, forming an obtuse angle and looks as though in a dance pose. Her right hand runs across her body in a *gajahasta* fashion; the left is bent at elbow, forearm raised and the palm bent inside with fingers straight. Her face is slightly raised and looks in the face of the male figure. She is clothed well-nigh the ankles and is adorned with appropriate ornaments like *kundalas*, *hāras*, *kankaṇas*, *keyūra*, etc. Like the male, a similar *kirīṭa* adorns her head. Apparently the figures are intended to represent Shiva and Parvati in a dance contest.

7. The last example (Pl. 113) is a stone figure of an *alsakanyā* under a tree which vaguely recalls the Central Indian sculptural tradition. The standing figure, draped upto ankles has her legs crossed, the right foot firmly set in front with the right thigh crossing over the left. The left foot is slightly raised at the heel simulating a lazy walk. She is well-ornamented. Her *uttarīya* passing over right shoulder is seen on the left arm slightly beyond the shoulder, leaving her breasts bare. Her right palm touches the left breast while the left hand goes over the head making a

triangle and her dangling fingers touch her plaited hair, the end of which is held in the beak of a peacock sculpted under the tree on its pedestal like trunk. The delineation of the slender foliated tree with its curved branches closer to a conventional creeper touching the breast of the *alasakanyā*. A creeper also entwines the tree. The pedestal of the figure and the tree is decorated with semi-circular lotus designs.

Remarks

Let us examine as to how far these figures described above conform to the canonical tenets of image making and mythological legends purporting to be portrayed by them.

Nrisimha (Pls. 106-107) killing Hiranyakasipu is normally represented in two ways : (*i*) in a sitting posture where Nrisimha overpowering the *asura* slaps him down on his thighs and disembowelling with his leonine fangs garlands himself with *asura's* intestines; and (*ii*) where the God either emerging cut of the pillar or otherwise encounters Hiranyakasipu in a standing position. Nowhere in the *shilpa* texts or *puranas* the God is said to have trampled down the *asura* or cut off his head holding him by the tuft. In the present case the carver has obviously borrowed the idea to represent Nrisimha killing the *asura* from the representation of Durga killing Mahishasura in human form, a theme of much popularity with medieval sculptures of India. The representation happens to be an unsavoury combination of two legends *viz.*, Nrisimha killing Hiranyakasipu and Durga putting an end to Mahishasura. It should also be noted that the club and the shield are not complementary weapons. Similarly, in the other relief Nrisimha carries a *khatvanga*, a Shaivite *ayudha*.

The sculpture depicting Lakshminarayana (Pl. 108), as already observed, is a crude imitation of *Alinganachandrashekhamurti*. It is to be remembered that Vishnu is never shown with a *jatamukuta*, the exclusive head-dress of Shaivite figure. Vishnu is to be adorned with a *kiritamukuta* only. The way in which the *chakra* is held needs no comment. So also the mirror in Lakshmi's hand which does not form part of her toiletry. Both have been reduced to non-functional elements. In normal delineations Lakshmi does not hold mirror. The disposition of the right foot of Vishnu is also peculiar.

The sculptured head (Pl. 109) is, in fact, a free copy of the well-known example of detached head of Shiva from Sarnath which is considered to be a fine representation of the Sarnath school of sculpture. The most conspicuous addition in it is the introduction of sitting figure of Dhyani Buddha in *padmasana* although the *dhyanamudra* is not well represented. It is unimaginable that a traditional artist would conceive an Hindu deity in this fashion.

The portraiture of Radha and Krishna (Pl. 110) is abnoxious and at once proclaims the ignorance of the imitator's attempt to combine the *mithunas* of medieval times with Venugopala concept. The whole composition mars the sublime supra-mundane and symbolic concept of love of Radha and Krishna and turns into a cheap rendering tending more towards carnality. Besides Krishna's flute is never held by Radha as indicated in this relief.

Regarding the bronze figures purporting to represent dancing Shiva and Parvati (Pls. 111-112) it may be observed that while it is true that the disposition of the legs and feet do indicate the vigorous action needed, the right hand seems to be more in a position of resting on the bull as in Vrishavahana form while the left holds Parvati by her waist. These, surely are not hand poses or *mudras* in dance. The right hand of Parvati is in the *gajahasta* pose, the other hand being shown more in an action of embrace rather than a dance *mudra*. None of the many *karanas* of Bharata's *Natyashastra* sculpted either in the Brihadishvara temple at Thanjavur or the lebelled ones found on the western *gopuram* at Chidambaram resemble the pose depicted by these bronzes. The figure, in posture, disposition of the hand, facial expression, etc., does not reflect the vigour, rhythm and *bhava* which Bharata's *Natyashastra* presents to convey. The headdress also betrays unnaturalness. The head of Shiva is almost straight, but the headgear is slightly slanting towards the back. The sculpture shows more of the impact of modern Indian films or drama rather than the proper traditions of Indian art. This is a classic example of a modern monstrocity created by an artisan ignorant of traditions and canonical tenets for the gullible western art collector.

Observations

The sculptures discussed by us are all modern; a fact confirmed by the study of materials used as also by the general features of the images in spite of the fact that much effort has been made to imitate or reproduce the antique specimens, either wholly or in parts with such modification as necessary.

Introducing imitation of antiques in the market may be advantageous to the country as a means of promoting artistic and technical talents with aid of advancing technology and the craze for new marketable productions to increase trade on the economic plane; yet on an entirely different plane, namely, scholarship & preservation of India's cultural heritage such an endeavour is likely to prove to be harmful. These imitations or reproductions would not only hamper the study of Indian art in its true perspective but also present a false and distorted image of Indian art heritage and culture.

To obviate these, we would suggest that any reproduction or imitation of antique art object or specimen, be it a sculpture, painting or any other such thing, should clearly indicate that it is a reproduction imitation besides carrying the date of manufacture in a suitable manner. This step would also prevent any purchaser, particularly the enthusiastic and unsuspecting foreign tourist, from being cheated, both materially and monetarily.

44

CONVERTING A PALACE INTO A MUSEUM : THE MYSORE PALACE

M. S. NAGARAJA RAO

When most of the palaces are being converted into the starred hotels in the country, true to its traditions, the Mysore Royal Family, which has done so much to patronise art and letters, has decided to convert the Grand Palace at Mysore into a Museum, in the service of the people. The Museum is to serve not just as a repository of the past glory, but a living cultural centre, where people could participate in the various cultural events.

The present building is a grand example showing the blend of Indo-Saracenic architecture, with a glorious past (Pl. 114). The early history of the Mysore Palace is rather indistinct. The *Annals of the Mysore Royal Family* (*Rāja Vamśāvalī*) informs us that the Rajas of the fourteenth century, were living in a Palace in Mysore. However, the first definite mention of the Mysore Palace is available, when, in about 1630 A.D., it is said to have been rebuilt by Raṇadhīra Kanṭhīrava Narasarāja Woḍeyar, after it had been struck and damaged by lightning. He is credited to have rebuilt the *Soundarya Vilāsa*, the *Nāmātīrtha* and other pavilions (*thoṭṭis* according to the Kannada nomenclature), and placed round the reconstructed palace, eleven guns, all of which had distinct names. The main ones among these were *Rāmachandra*, *Muddukrishṇa* and *Siṃha*. In 1760, Krishṇarāja Woḍeyar II, was invited to visit his capital, Mysore, and his Palace, by his Prime Minister, Hyder Ali. In 1793, Tipu Sultan is said to have removed all the old and dilapidated buildings including the Palace but excluding the temples, in order to build the new city of Nazarbad. Even in 1799, there appears to have been no palace worth the name in Mysore, as the Duke of Wellington emphatically states that there was no house at all suitable for the enthronement of the young *Rāja* in 1799 and, therefore, it had to take place in a *pandal*, erected in Nazarbad. The Duke, then Col. Arthur Wellesley, wrote again to his brother, Henry, on May 26, 1801, "The *Raja's* family have moved into old Mysore, where their ancient Palaces has been rebuilt in the same form in which it was formerly, and, I believe, on the old foundations. The whole family appears to be as happy as we wished they should be when this Government was established. Mysore is becoming a large and handsome town full of inhabitants". In 1803, Lord Valentia visited Mysore, and described the Palace as small, neat and unfinished. He further said that there was a great deal of open space inside the fort round the Palace, and that he entered the Palace through a handsome gateway. Therefore, it appears that the Palace which was hastily built in just about two years was in bad repairs by the end of the 19th century and many of the tenaments attached to it were crumbling. Added to this was the fire. In 1897, at the close of the festivities, during the marriage of the princess Jayalakshmammaṇṇiyavaru, the greater part of this wooden Palace was almost destroyed by fire. In order to restore the grandeur of the Mysore Palace, Her Highness, the *Mahārāni* Vāṇivilāsa *Sannidhāna*, C.I., then Regent, decided to build a new palace on the model and on the foundations of the old palace. The architectural plans by Mr. Henry Irwin, the architect of the Viceregal Lodge at Simla, were approved. The construction, which was inaugurated by Her Highness in October 1897, was completed in 1912.

The main building is of massive grey granite, three storeyed, and dominated by a five storeyed tower covered by a gilded dome. The tower is about 145 feet from the ground to the golden flag on its summit. The Palace, like the old one, is built around a courtyard, called *thoṭṭi*, open to the sky. To the east of this *thoṭṭi* (or court-yard) on the ground floor, is the impressive elephant gate. Immediately to the south is the beautiful *Kalyāṇa Manṭapa* or the marriage pavilion. On the first floor, still facing east, is the great Durbar Hall, *Dīwan-i-Ām*, measuring 155 feet long by 42 feet wide. On the same floor, towards the south, is the daintily decorated private Durbar Hall, called *Ambāvilāsa*, the *Dīwan-i-Khās*. The second floor has several rooms and large halls on the sides.

Converting such a grandiose building into a museum is a challenging task. The eternal problem faced by a Museum Director in utilising an imposing building for converting into a museum is being successfully solved in the case of the Mysore Palace. The authorities have decided that the Palace at Mysore should not be a museum in the conventional sense of the term. It is to be a museum reflecting the history and the glory of Mysore and that of the illustrious Mysore Royal Family. Not merely that. It is to be a living cultural centre, encouraging various fine arts. No objects of art and archaeology, unconnected with the history of the Mysore dynasty, are to be exhibited. The structure itself is to be maintained as a historical building. The ceremonial halls are to be maintained in their pristine form so that the people could come and see the grandeur of the period and appreciate the aesthetic qualities. In fact the three ceremonial halls in the main Palace are themselves the veritable museums even in their present form.

Kalyāṇa Manṭapa or the marriage pavilion, on the ground floor, is a beauty to look at. The octagonal hall has a colourful stained-glass ceiling (Pl. 115). The designing of the stained decorations is said to have been done by the artists of Mysore, but executed by the famous Mcfarlane Saracen Foundry at Glasgow.[1] The dome is supported by groups of triple cast-iron pillars, at intervals. The main theme of the stained-glass decoration as well as that of the mosaic floor is the peacock, hence this hall is also called Peacock Pavilion.

Apart from this stained-glass decoration which is the central attraction, the walls of this pavilion are covered with murals, depicting the famous Mysore *Dasara.*

The *Dasara* or 'the festival of ten nights' were first celebrated on a grand scale by the rulers of Vijayanagar at Hampi. We have graphic accounts of these festivities in the accounts of the contemporary foreign travellers who visited Viyayanagar. With the disintegration of the Vijayanagar empire, it was the Nayaks of Keladi and Ikkeri and Woḍeyars of Mysore who inherited the traditions of Vijayanagar. The Mysore rulers made the *Dasara* immortal by the grand festivities for ten days, culminating in the famous procession of the King in a golden *howdah* on a decorated elephant. Even these festivities have become part of history now.

However, the Mysore artists, under the patronage of and commissioned by the noble Krishnaraja Woḍeyar IV, have immortalised the *Dasara* procession, on canvas, in 26 panels, on the walls of the marriage pavilion (Pl. 116). Thus the *Kalyāṇa Maṇṭapa* is not only an architectural beauty but a veritable gallery of paintings. To make this beautiful octagonal painted pavilion a living one, it is proposed, in course of time, to hold music consorts or even dance performances by top artists of the nation.

The Public Durbar Hall is a massive Pillared Hall (Pl. 118), which deserves to be maintained as such (Pl. 117). The rear walls have paintings by Ravi Varma, (Rāma breaking the *Śiva Dhanusa*), and eight forms of *Devi, viz., Kālikā, Navadurgā, Mahiṣamardini, Saraswatī, Mahālakshmī, Bhuvaneshvarī, Gāyatrī and Rājarājeshvarī,* by a distinguished local artist-sculptor Śri Śilpī Siddalingaswāmī. The central panel has a large painting of the Mysore Royal Family, by another distinguished artist, late Sri Y. Nāgarāju, who has also executed some of the panels in the marriage pavilion. The interesting feature of this panel, however, is that it depicts four generations of Mysore Kings, *viz.*, Krishnarāja Woḍeyar III, Chamaraja Woḍeyar, Krishnarāja Woḍeyar IV with his younger brother Kaṇṭhīravanarasarāja Woḍeyar, and the handsome prince Jayachamarāja Woḍeyar, the last king who ruled the princely state before the formation of the Indian Union. All the paintings are encased in delicately carved teakwood frames, which are by themselves the works of art.

The majestic Durbar Hall can itself be best described in the words of Constance E. Parsons, "No short description, if any, can do justice to the beauty of line, wealth of material, blaze of colour and exuberance of decoration in the great Durbar Hall. Walls vie with ceilings, columns with doorways and both by daylight and when ablaze with thousands of fairy lights, the hall gathers up and displays all that poets and artists have dreamed of the splendid setting of an Oriental Court; all the glamour and glory of "the thousand nights and one night".

The *Ambāvilāsa*, which is the *Dīwan-i-Khās*, is the most gorgeously decorated hall, with a harmonious composition in colour (Pl. 119). The beauty of many of the details is unsurpassed in the Palace. The floor, in between the pillars is inlaid with Agra work—inlaid with jacinth and jasper, corbuncle and carnelian, amber and lapis lazuli—begun by artisans from Agra but completed by local boys and men. The teak wood ceiling too is magnificent having bold and intricate carved designs. Every door, silver (Pl. 120), teak and rosewood with ivory and wood inlay; has charming decorative designs, depicting the ten incarnations of Vishṇu, or tiny Krishna kissing his toe, as he lies on the *pipal* leaf.

The central aisle has a beautiful stained-glass ceiling decorated with delicate designs, supported by cast-iron pillars, all of which are manufactured by the famous Mcfarlane of Glasgow. The beautification of the *Ambāvilasā* was entrusted to the celebrated artist of Karnataka, Sri V. Venkatappā. While assigning the work, His Late Highness Krishnarāja Woḍeyar IV, said, "you have devoted your whole life for the study of fine arts and have made great name in your life, you have brought much credit to my state and I consider it as a pride. My only ambition is to show you, through your art, to the distinguished visitors that come here and say that it is my countryman's work". A look at this beautiful hall, where Venkatappā has blended blue, gold and red to provide pleasing colour scheme, shows that the great artist has lived upto the expectations of His Late Highness.

This Hall too will have to be maintained in its pristine condition, as a piece of architectural and artistic beauty. However, there is a proposál to organise each year a few performances of classical music in this Hall so that the Palace can serve as a living cultural centre. In order not to mar the beauty of the Hall with furniture, on such occasions, the Chamber of Music, when organised, will be in Indian *baiṭhak* style.

The star attractions of the proposed grand Museum will, however, be the exhibition of the traditional Ceremonial Golden Throne (Pl. 121), the Golden *Howdah* which was used in the *Dasara* procession, the priceless collection of trophies and the Palace armoury.

The Golden Throne consists of the main seat, a staircase, and the Golden Umbrella. A benedictory verse, forming part of the Sanskrit inscription, engraved on the rim of the umbrella states as follows :

> "Oh, King Śri Krishṇa, Lord of the earth, son of the illustrious Chamarāja, you are resplendant with the blessings of Goddess Chāmundeshvarī. You are the Lord of the *Karnataka Ratna Simhasana*. You are the full moon of the autumn to the milky ocean of the *Yadu* race. This Golden Umbrella of the Golden Throne which you have inherited from your illustrious ancestors, evokes the awe of the whole world".

According to this epigraph, which is addressed to Krishnarāja Woḍeyar III, the bejewelled Golden Throne has come down to the Mysore Royal Family from generations of Kings.

The history of this remarkable Throne is exciting. According to one tradition this Throne belonged to the Pāṇḍavas of Mahābhārata fame, and was in Hastināpura. Kampilarāya brought this Throne from Hastināpura to Penugonda, now in Andhra Pradesh, where it was kept underground.

In 1338 A.D., Vidyāraṇya, the royal priest of the Vijayanagar kings, pointed out the spot where it was buried, to Harihara I, one of the founders of the Vijayanagar empire, who retrieved this. After this, this auspicious throne was used by the Vijayanagar kings at Anegondi for more than a century and a half. During the early part of the 17th century the Governor of Vijayanagar rulers at Srirangapatana obtained this and brought it there.

In 1609, the ailing Governor, Srirangaraya, made over this throne to Rājā Woḍeyar, before retiring to Talakad. In 1610, Rājā Woḍeyar, ascended this Throne with pomp and pageantry and inaugurated the *Dasara* festivities. He further enjoined that his descendants should eternally continue these festivities. Epigraphical evidence shows that this royal Throne was in the possession of Chikkadevarāja Woḍeyar in 1699. The historical records further show that it was with the royal family till the time of Tipu Sultan.

According to another tradition this Throne is said to have been a gift of Aurangzeb in A.D. 1700 to Chikkadevarāja Woḍeyar. Kāsim Khān, a courtier in Aurangzeb's court and a friend of Chikkadevarāja Woḍeyar, died in Delhi. Chikkadevaraja decided to send a delegation to the Emperor to develop friendship. The delegation, which left in 1699, returned in 1700. Aurangzeb is said to have sent a signet ring with the inscription *jagadevarāja* and permission to sit on the Ivory Throne. However, this tradition is not supported by sufficient evidence.

After the fall of Tipu Sultan, this Throne was recovered from a room in the Sultan's Palace at Srirangapatna. It is learnt that this royal seat was quickly renovated and used in the Coronation of the Child Rāja, Krishnarāja Woḍeyar III, in 1799. From then on this Ceremonial Throne has remained with the Mysore Royal Eamily.

Originally made of figwood, this throne is said to have been decorated with ivory plaques. It is said to have come from Aurangazeb to Chikkadevarāja Woḍeyar in this form. Later on, in course of time, it was decorated and bejewelled with golden embellishments and silver figurines. In a Sanskrit work, called *Devatanāma Kusumamañjarī* composed by King Krishnarâja Woḍeyar III, in 1859, there is a detailed description of the Golden Throne.

"The Throne is decorated with golden pillars and mango leaves. The balustrades of the steps leading to the seat is embellished with female figures. The Golden Umbrella has festoons. The seat has the tortoise seat (*kurmāsana*). The four sides of the Throne are decorated with *Vyālas* and creepers. Elephants on the east, horse on the south, soldiers on the west and chariots on the north decorate the royal seat. *Brahma* towards the south, *Maheshvara* on the north and *Vishṇu* in the centre form the Trinity. On the corners are found Vijaya and four lions, two of the mythical *shārdūlas*, two horses and swans on the four corners. It is further adorned with Nāga nymphs and *Asṭhadikpālas* or the guardians of the eight quarters".

The Golden Umbrella has 24 *Ślokas* (stanzas) in *Anusṭhubh* metre, blessing the King Krishnarāja Woḍeyar III.

This Throne is a work of art. Although it has undergone slight alterations in the 1940s, it has retained the original artistic and decorative features.

The Golden *Howdah*, is also an *object d'art*. The inner structure which is an wooden *manṭapa*, is covered with daintily worked golden sheets, exhibiting the craftmanship of the Mysore artists.

Both these ceremonial objects are to be permanently put on show. The problems of security is being tackled by a programme of encasing both of them in rooms made of bullet-proof glass sheets and providing electronic alarms.[2]

The next attraction in the Mysore Palace Museum will be the exhibition of the priceless collection of trophies, shot by His Highness the Mahārājā. Perhaps nowhere in the country do we have such an excellant collection of natural history specimens at one place. It is proposed to take up the exhibition of these natural history specimens in the three floors of the right wing of the Mysore Palace.[3] The cases and the dioramas will be so designed as to blend with the traditional architecture of Mysore and its Palace.

The armoury of the Palace has one of the best collections of traditional weapons. It is seen that even in the last century all the weapons appear to have been catalogued as the metallic number tags fixed to the weapons attest. There are also historical arms, such as the belt-sword of Kanṭhīrava Narasarāja Woḍeyar, swords of Hyder Ali and Tipu Sultan, etc. Plans are being worked out to organise the arms section, with modern presentation techniques.

The architecture of the Mysore Palace with its hoary past and the colourful history of Mysore Kingdom lend themselves beautifully for the programmes of *Son et Lumiere*. A project report on this programme is under active consideration of the Government of Karnataka.

The vast open space, in front of the Palace, with the planned garden that is being laid out, adds charm and majesty to the entire structure. The Palace is known for its illumination. The entire building is lined with rows of bulbs, following the contours of the structure, and when lit up, it looks like a Palace built of lights. The ceremonial halls have already been open to the public, on a nominal fee, during day time, and an average of three thousand visitors see and enjoy the aesthetic beauty of the Palace daily. As a tribute to their appreciation, Palace is lit up on every Sunday and on national holidays, so that the people can come and witness freely the glory of the Mysore Palace.

There is no doubt that when the proposed organisation of the Mysore Palace Museum is completed it will be a great centre of culture in the nation.

References

1. During my recent visit to Glasgow, I learnt with deep sorrow that this famous Foundry has went out of business as late as 1965 and all the records connected with the firm were consumed in a bon fire. However, advertisement in the volume of the local Chamber of Commerce proudly announce and illustrate the Mysore Durbar Hall as the work executed by Mcfarlane of Glasgow.
2. Organising this exhibition may take some more time because of the problems of securing the bullet-proof glass sheets. Some of the firms in Glasgow have promised to be able to supply the large-sized glass sheets for the purpose.
3. Grateful thanks are due to Dr. S.M. Nair, Sriyuts S.K. Saraswat and R.B. Kazi of National Museum of Natural History, New Delhi who have worked out schematic representations for this presentation and have promised further co-operation.

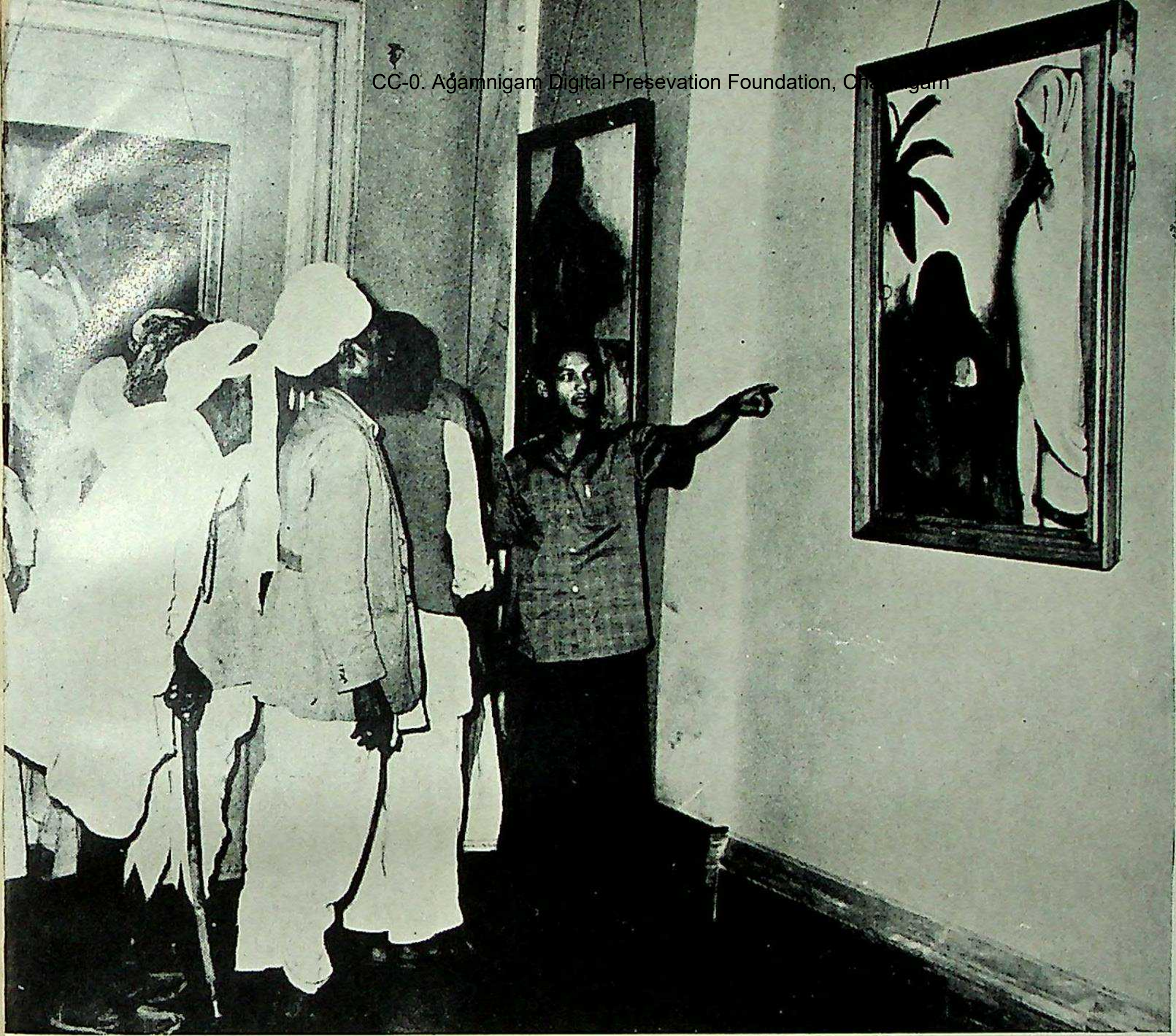
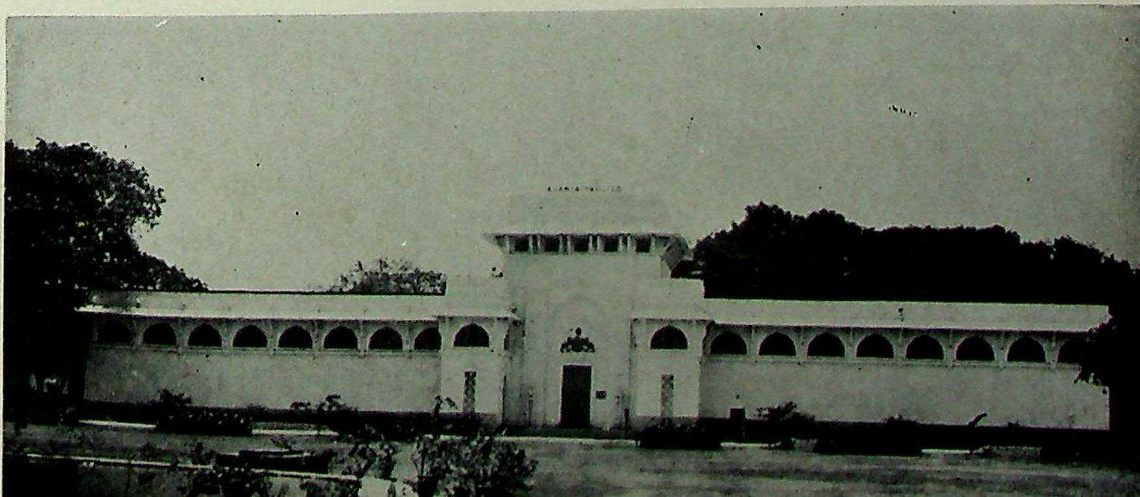


Plate 95 : A group of villagers being taken round the National Gallery of Modern Art's Amrita Shergil Gallery (*courtesy* : National Gallery of Modern Art, New Delhi).

Plate 96 : The Ajanta Pavilion, Hyderabad exhibits copies of Ajanta murals as well as the contemporary paintings of Indian painters (*courtesy* : Ajanta Pavilion, Hyderabad).



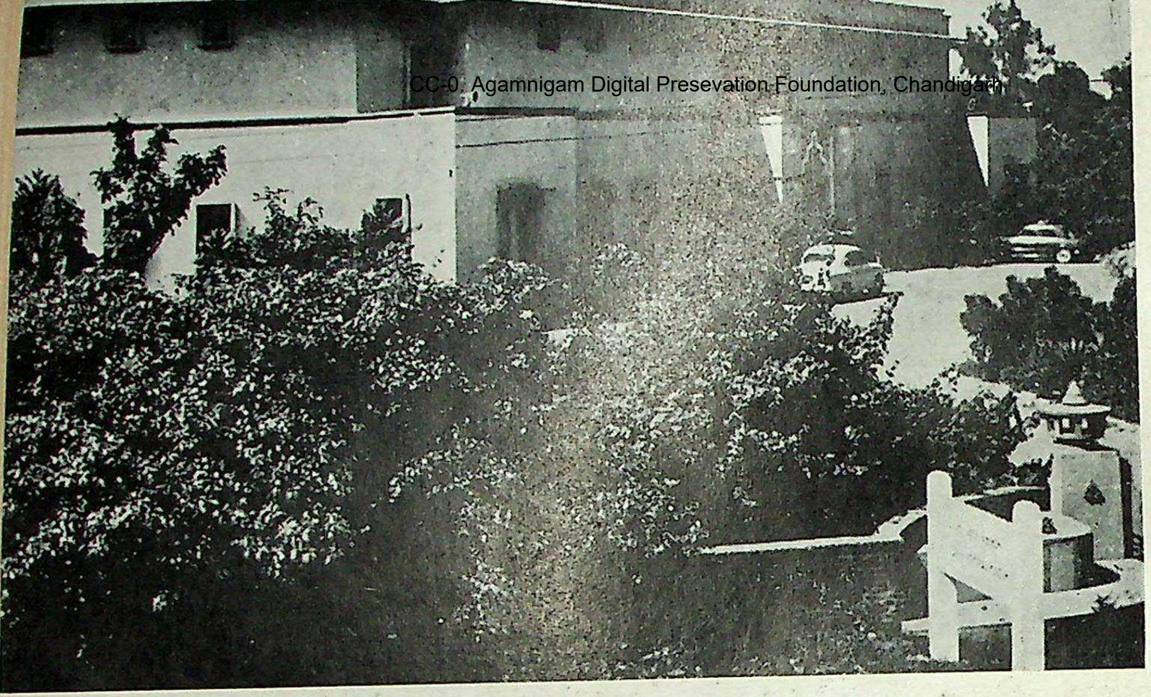
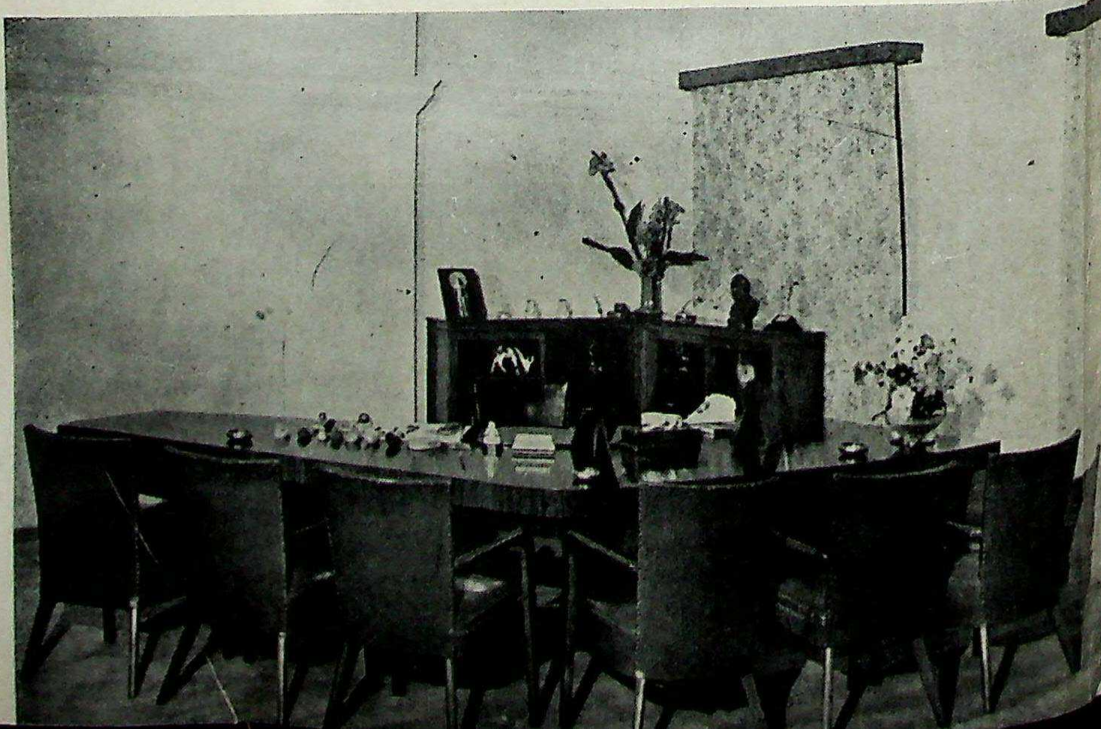


Plate 97 : A view of the Gandhi National Museum, Rajghat, New Delhi. There are several Gandhi museums in the country situated at places connected with Gandhiji's memory, such as at Sabarmati, Sevagram, etc. (*courtesy* : Gandhi National Museum, New Delhi).

Plate 98 : A view of the External Affairs Office of Pandit Jawaharlal Nehru (reconstructed), Nehru Memorial Museum, New Delhi (*courtesy* : Press Information Bureau, Govt. of India, New Delhi).



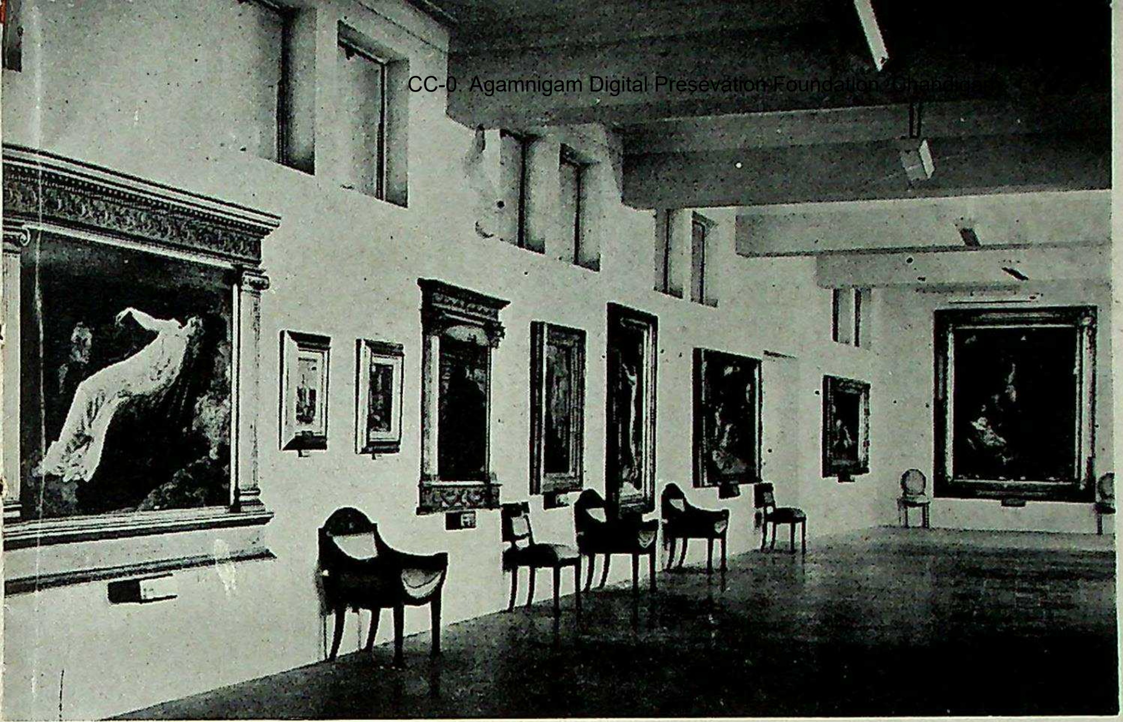
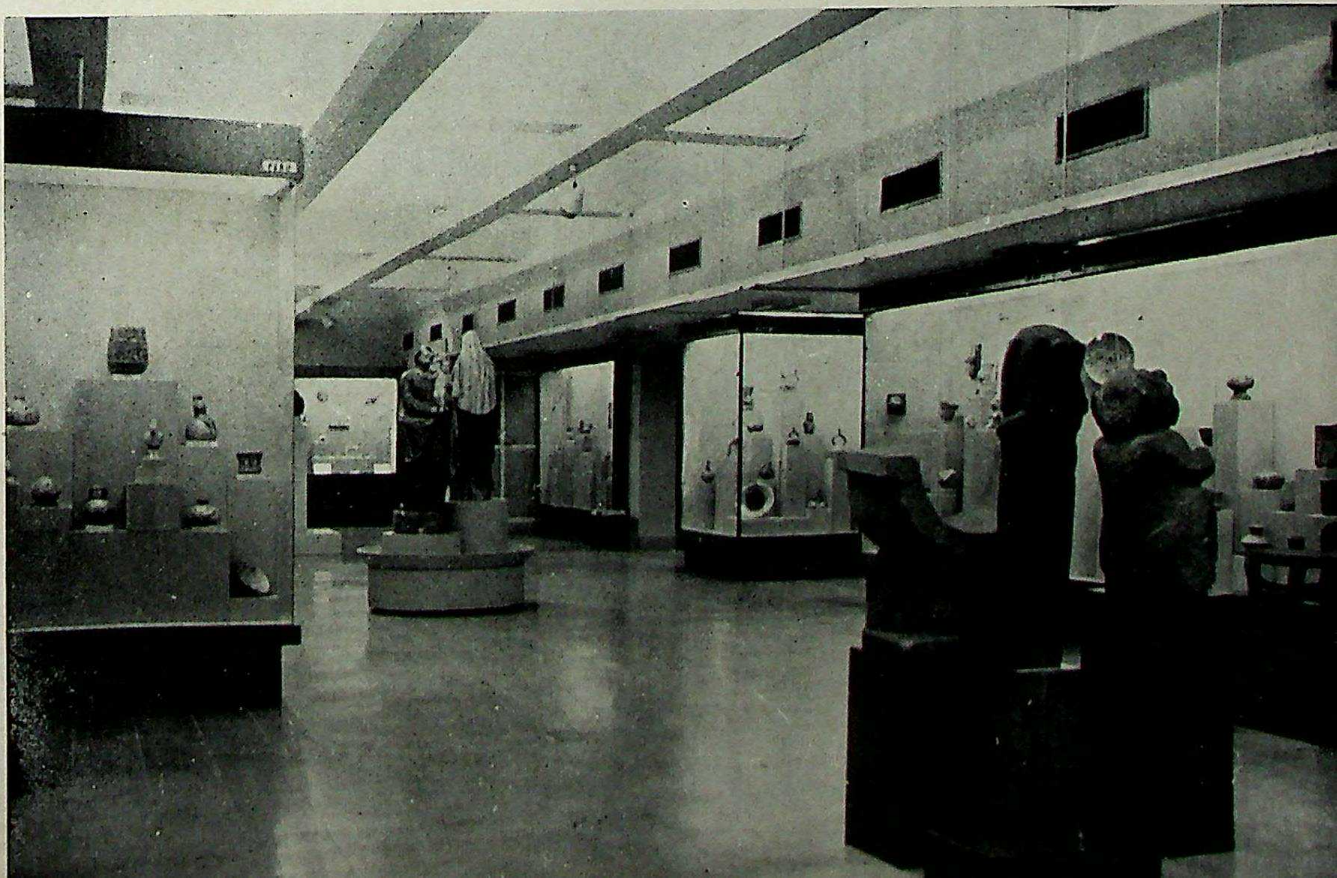


Plate 99 : A view of the Oil Paintings Gallery, Salarjung Museum, Hyderabad (*courtesy* : Salarjung Museum, Hyderabad).

Plate 100 : The Pre-Columbian and Western Art Gallery of the National Museum. It is the only collection of Meso-American and allied cultures in Asia (*courtesy* : National Museum, New Delhi).



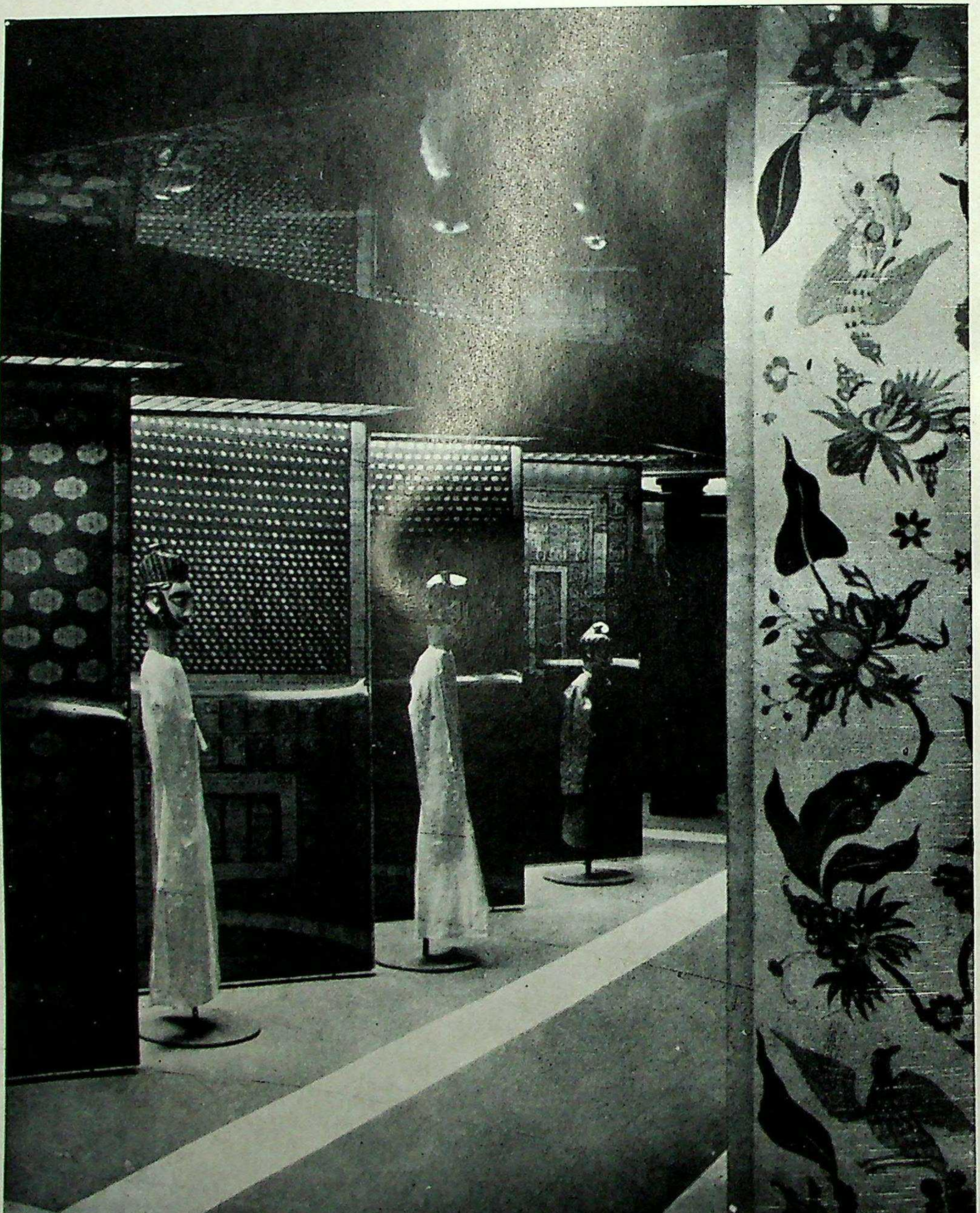


Plate 101 : The Calico Museum of Textiles, Ahmedabad is an outstanding institution of its type, having one of the best collection of Indian textiles (*courtesy* : Calico Museum of Textiles, Ahmedabad).

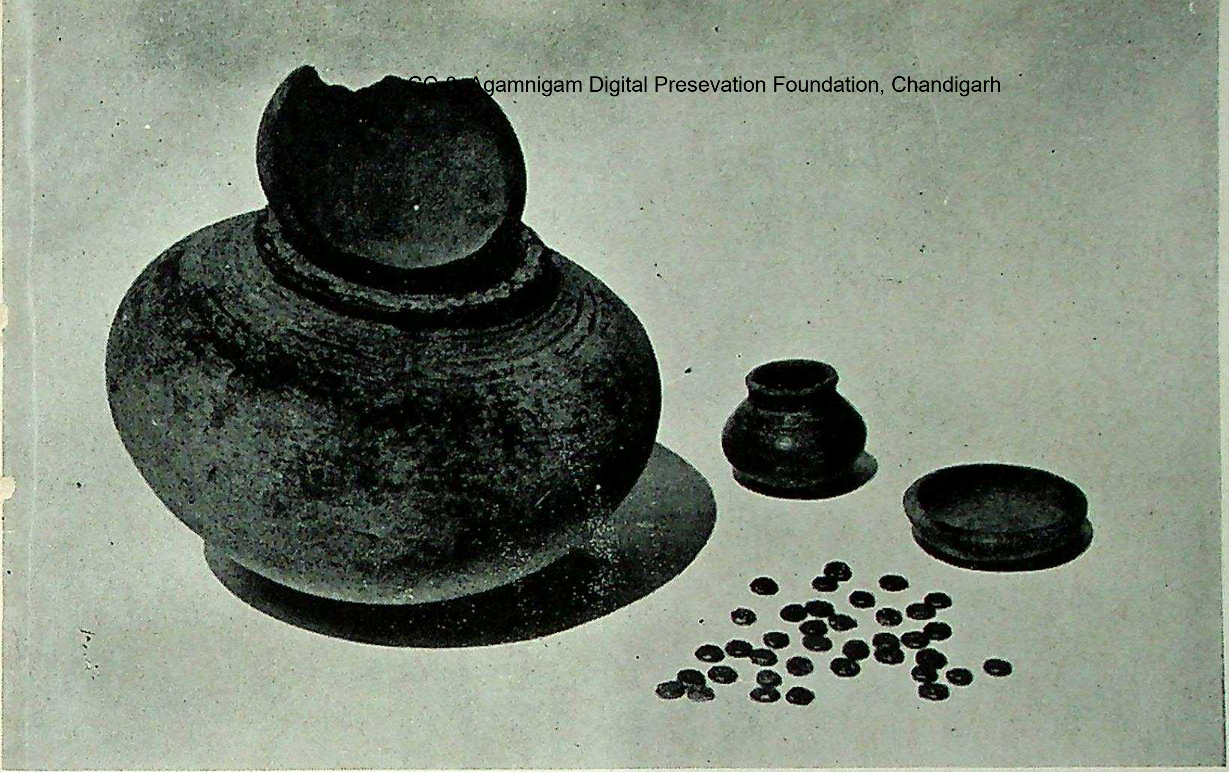


Plate 102 : A pot with coins from Edapirai village, North Arcot District, Tamil Nadu, discovered in 1978. The coins belong to the Vijainagar Period (*courtesy* : Government Museum, Madras).

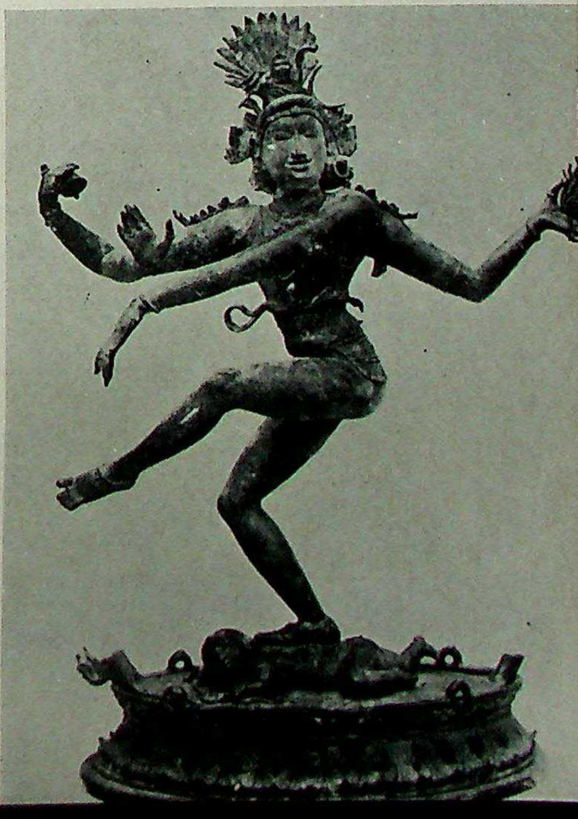


Plate 103 : Bronze image of Natesha discovered from Tiruvelangadu, Chingleput District, Tamil Nadu. The image, one of the best of its kind, is assignable to 11th century A D. (*courtesy* : Government Museum, Madras).

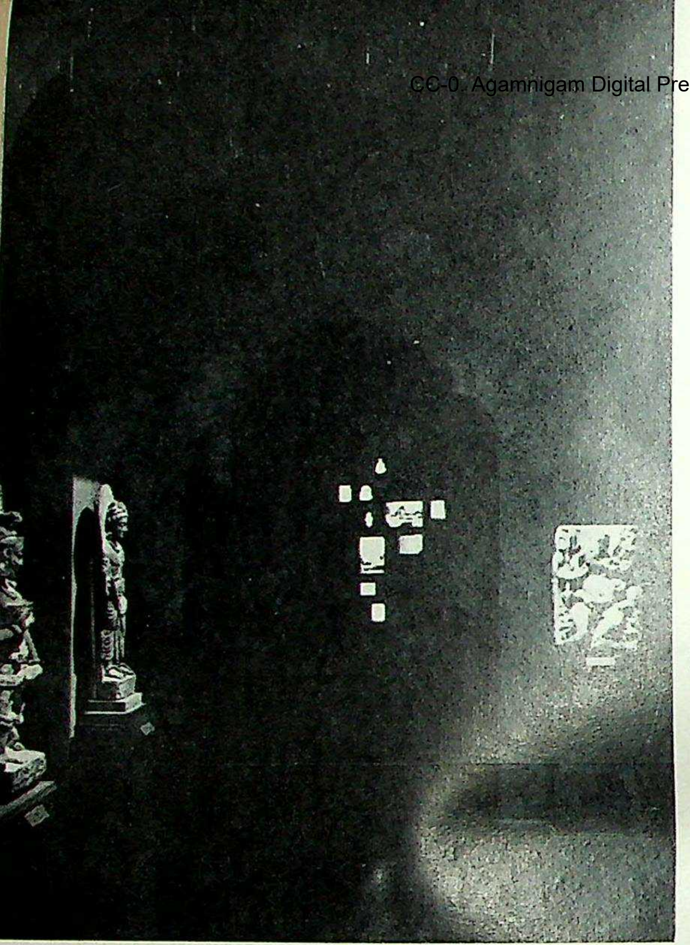
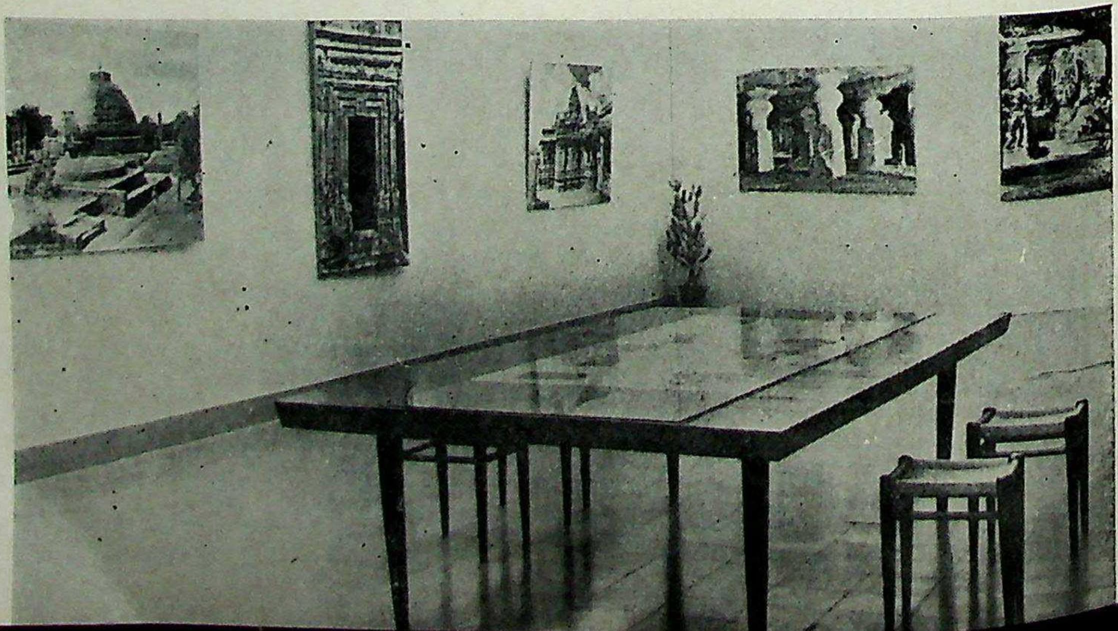


Plate 104 : An example of a dramatic display highlighting only the sculptures with the help of spot lights. Similarly the map is also presented in a dramatic way. An example from a European Museum.

Plate 105 : Artistic photographic enlargements, displayed properly, make lasting impact on the visitors (*courtesy* : National Museum, New Delhi).



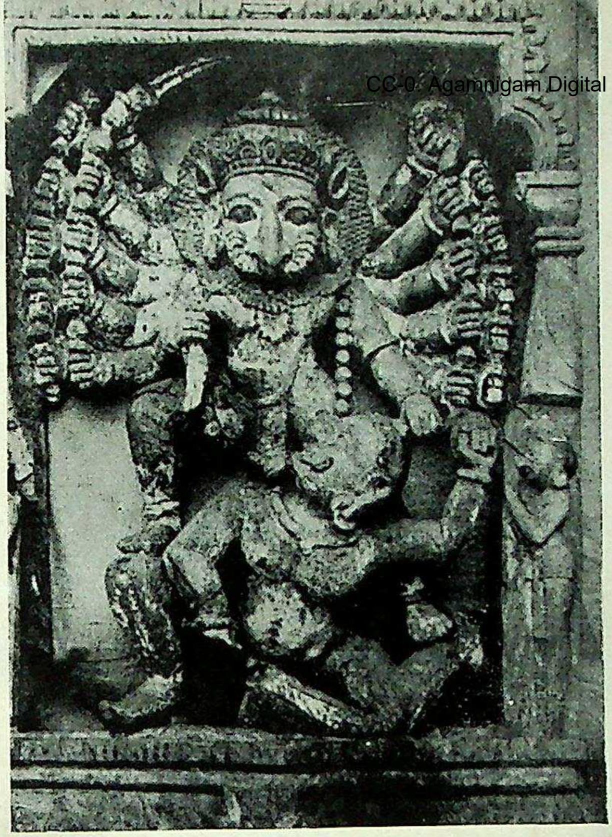


Plate 106 : Modern imitation in wood showing Ugra Nrisimha Avtara.

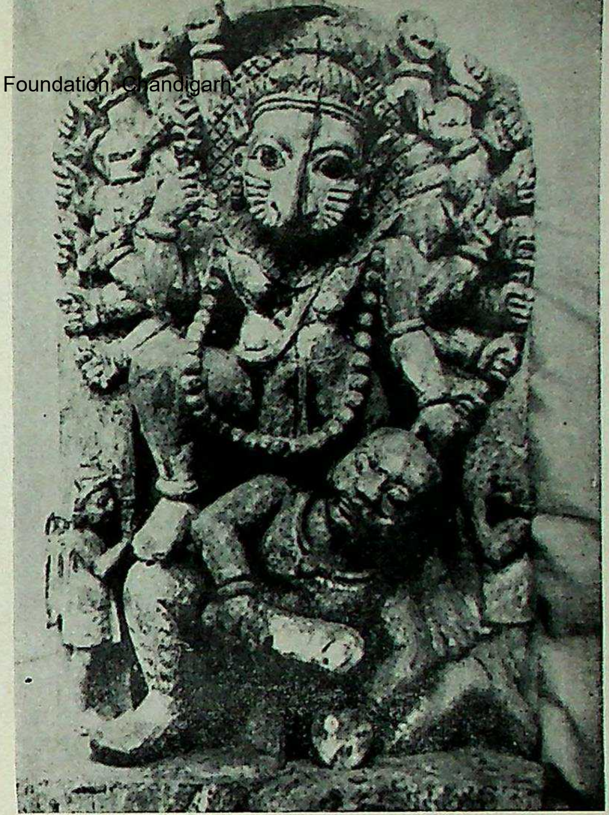


Plate 107 : Modern imitation showing another example of Nrisimha Avtara.

Plate 108 : A modern copy in stone showing Laxminarayana, sculpted after the image of Alinganacandrasekharmurti of Siva.

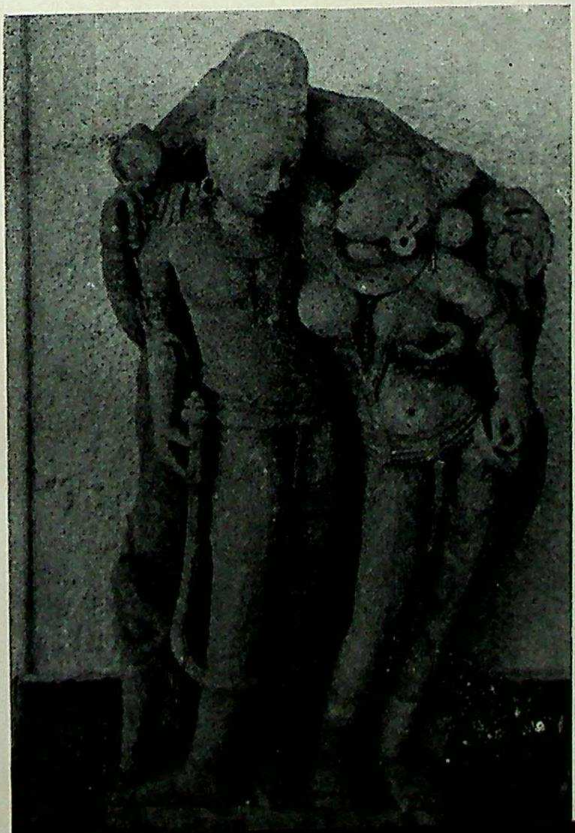
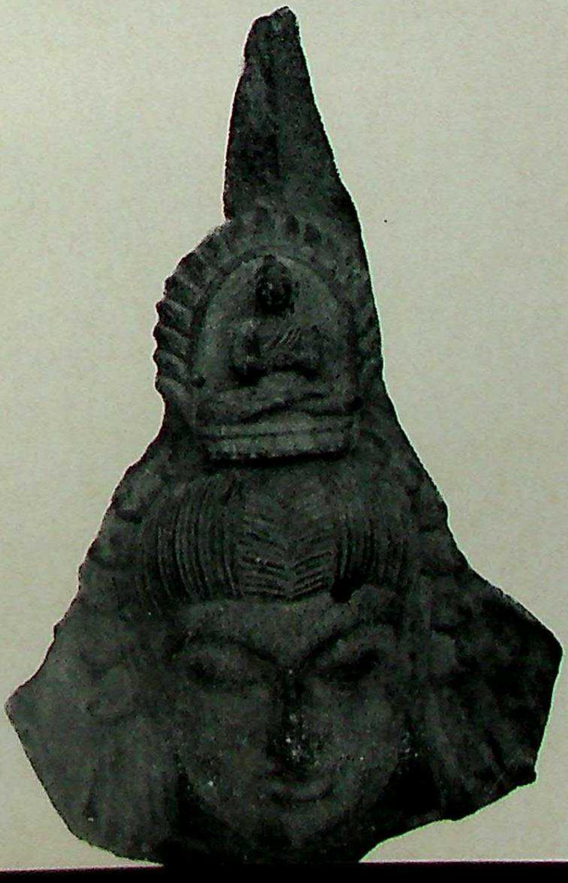


Plate 109 : A recently carved head of some deity showing mixture of Sivite Buddhist elements and thus disclosing its forged identity.



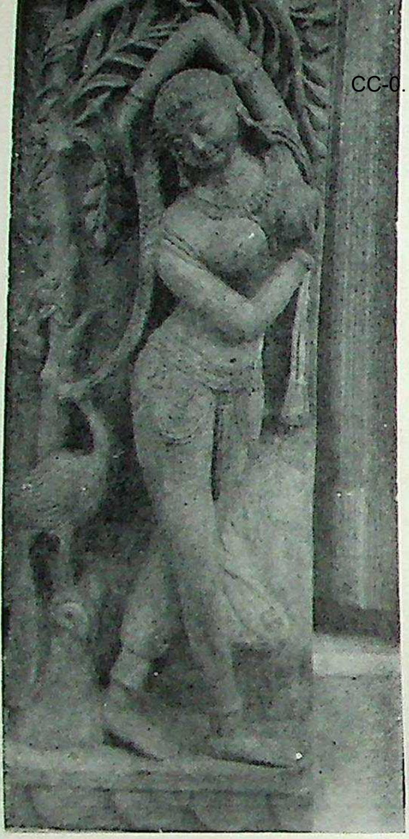


Plate 113 : A stone sculpture of recent origin showing *Alasakanya*.

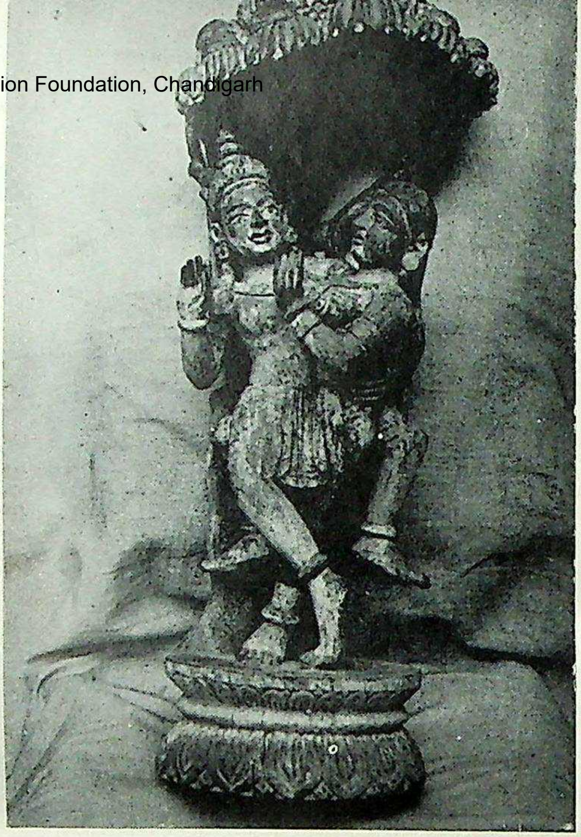


Plate 110 : A wooden sculpture of recent origin purported to be showing Radha and Krishna in an unusual pcse, which is usually associated with Tantric Buddhist deites and giving clue to the forgery.

Plate 111 : A recently prepared Bronze showing a devine *Dampati* combining Sivite iconographic elements of various images (front view).

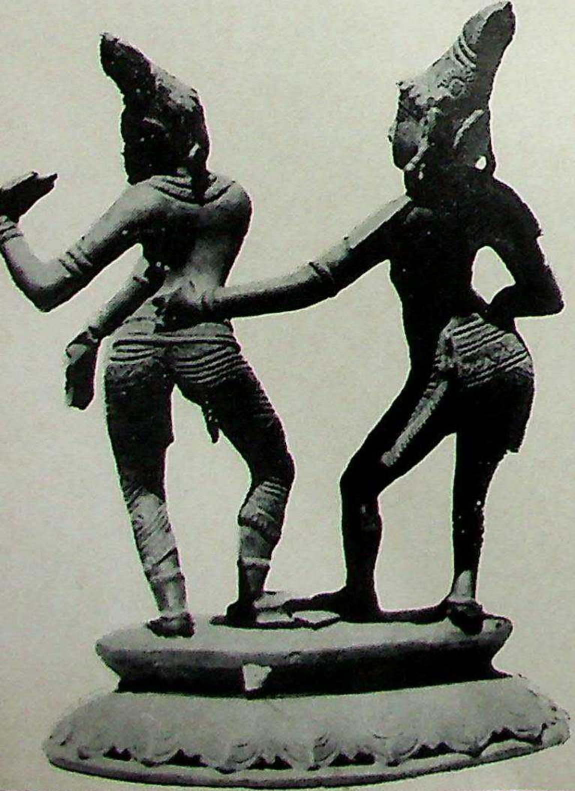
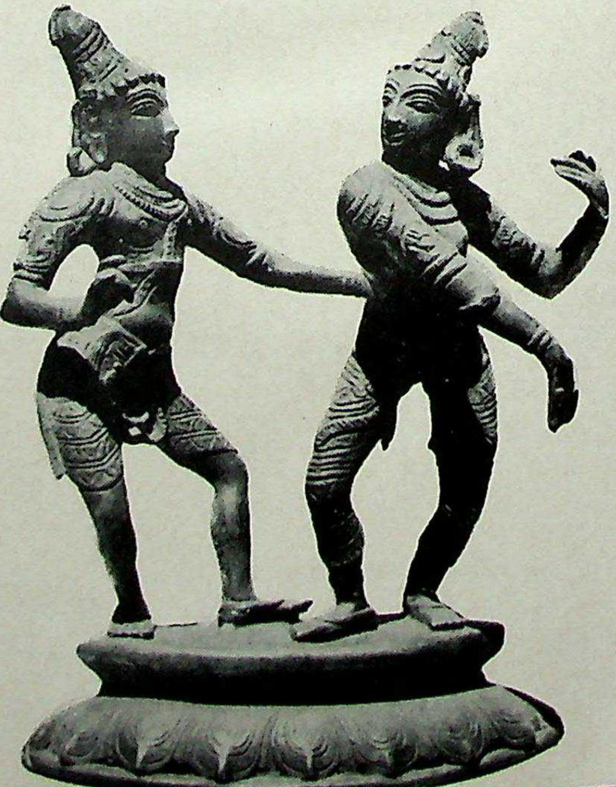


Plate 112 : Back view of plate no. 111.



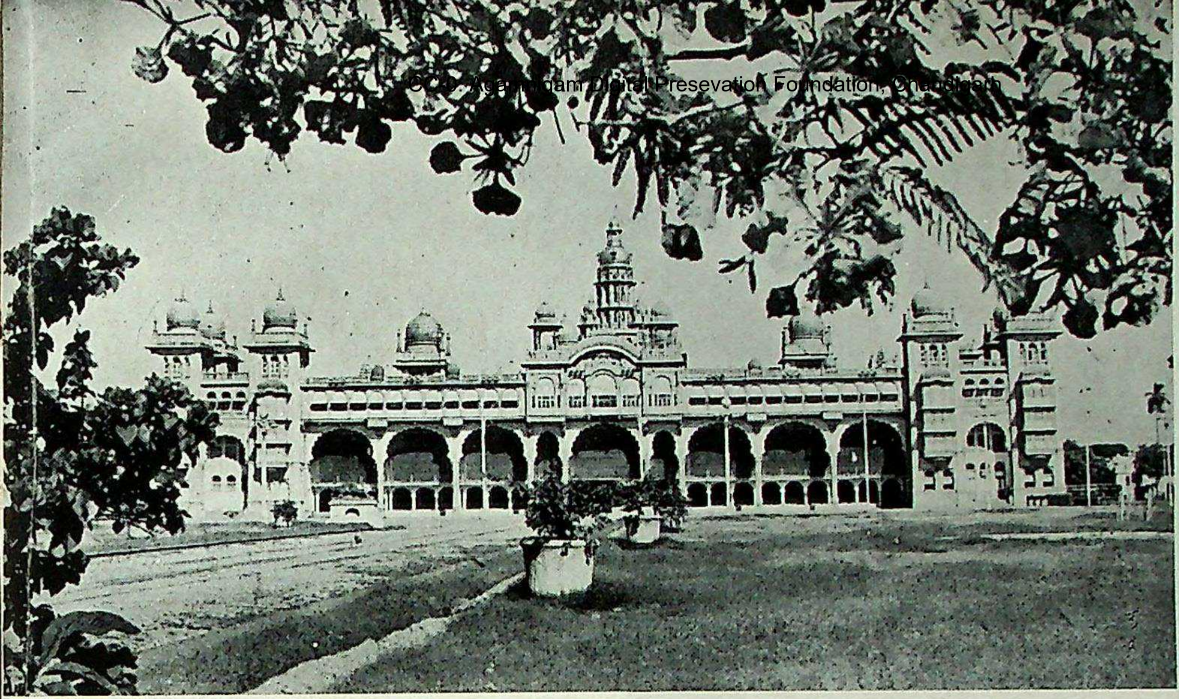
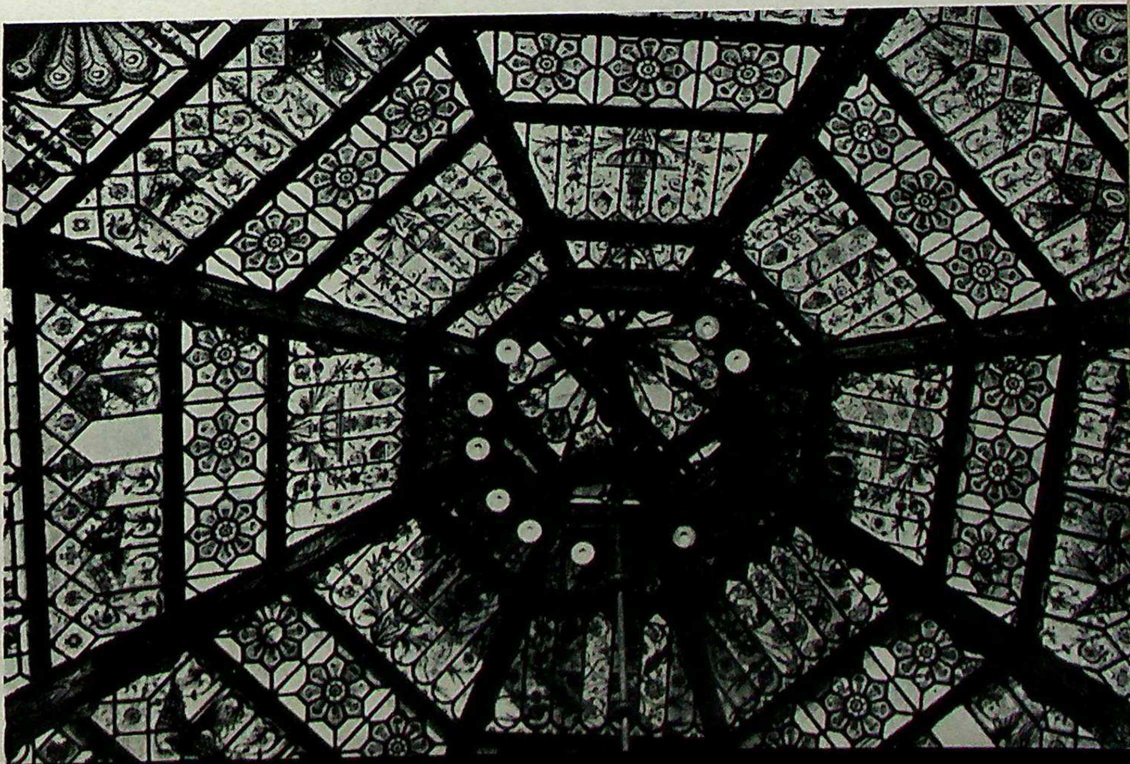


Plate 114 : The Mysore Palace—General View from the east.

Plate 115 : The Mysore Palace—Kalyanamantapa stained glass ceiling.



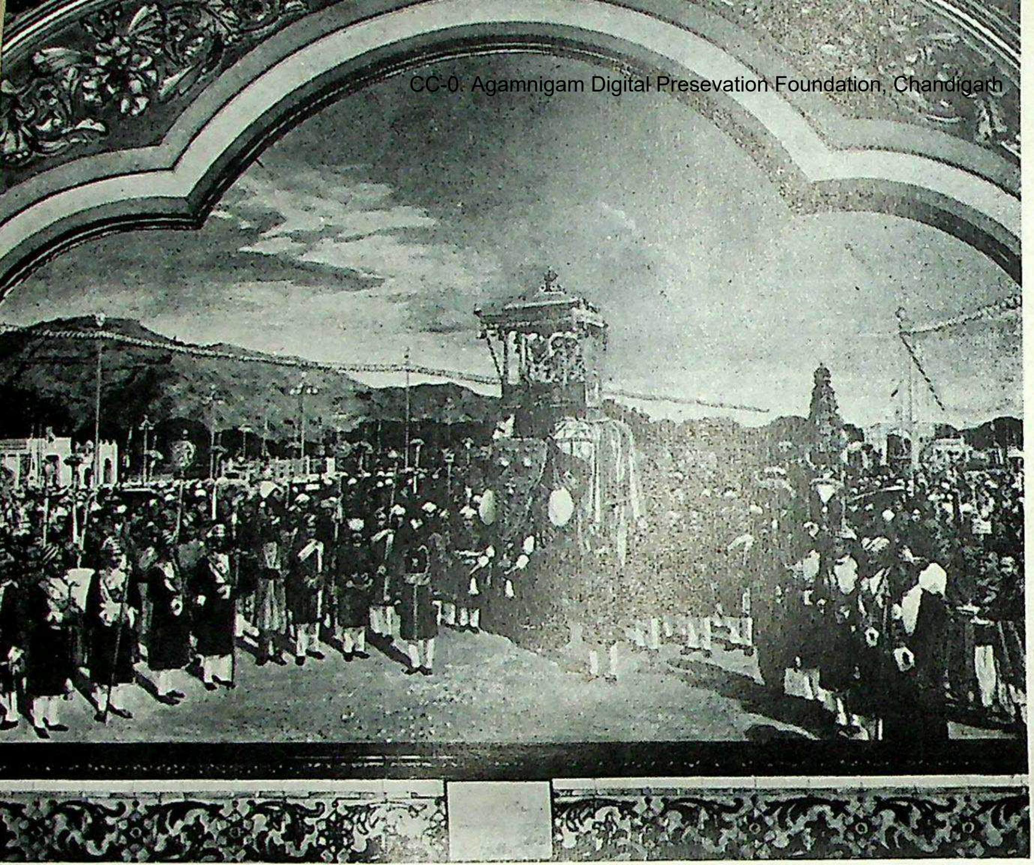
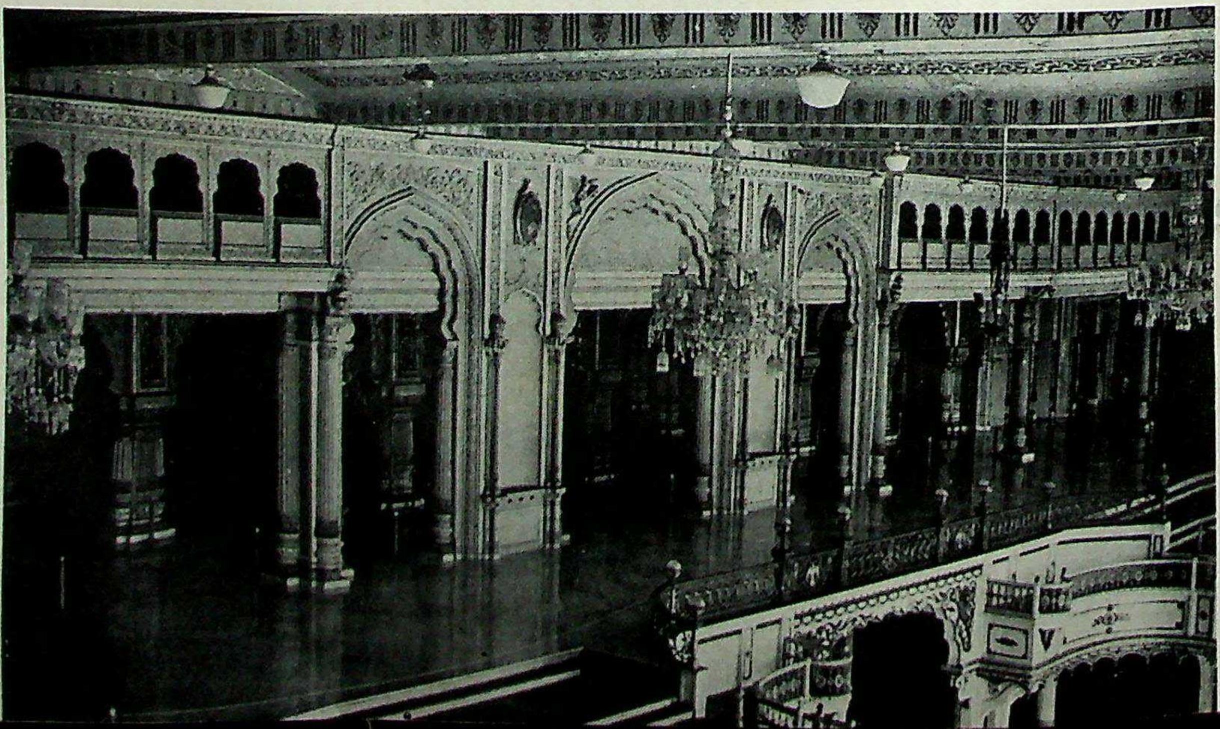


Plate 116 : Dasara Procession—Painting on canvas in the Kalyanamantapa, Mysore Palace.

Plate 117 : The Mysore Palace—Ceremonial Public Durbar Hall.



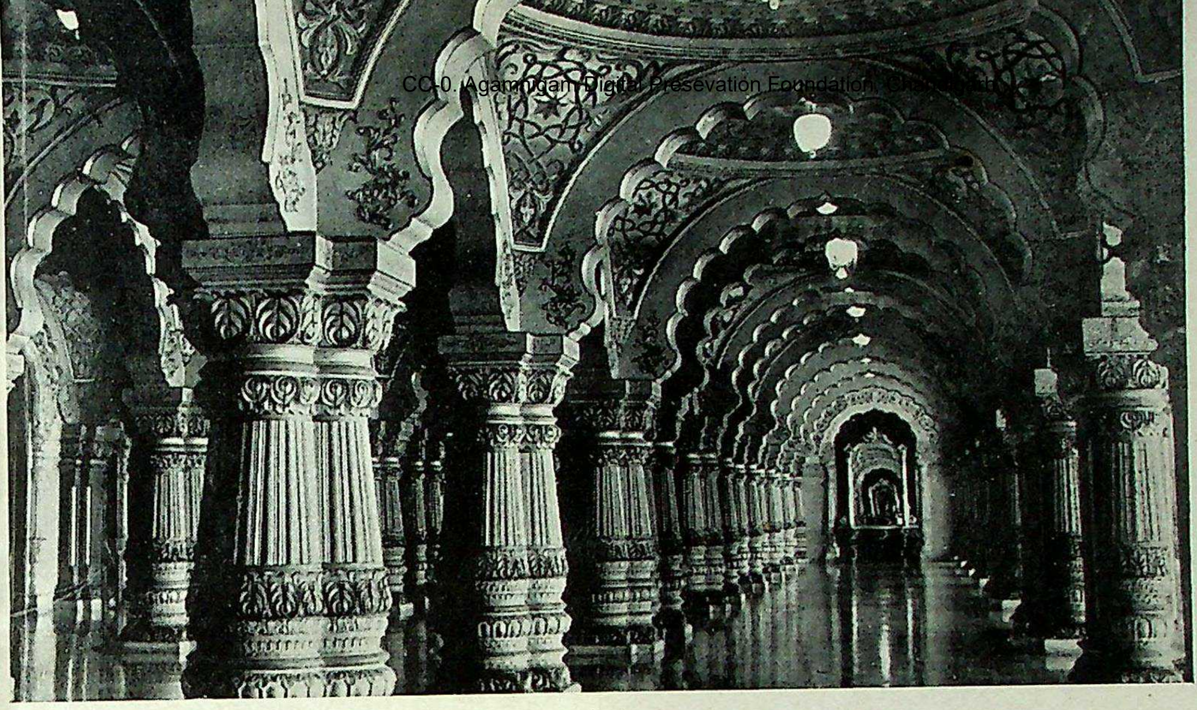
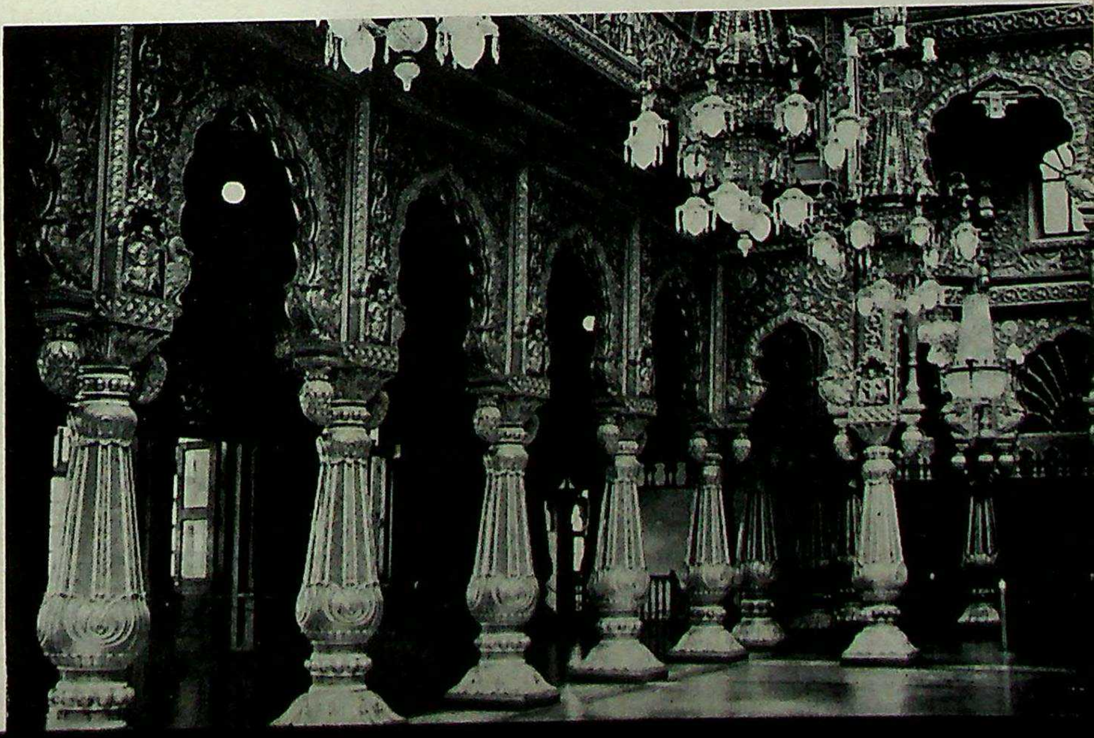


Plate 118 : The Mysore Palace collonade—The Main Durbar Hall.

Plate 119 : The Mysore Palace—Amba Vilas Private Durbar Hall.



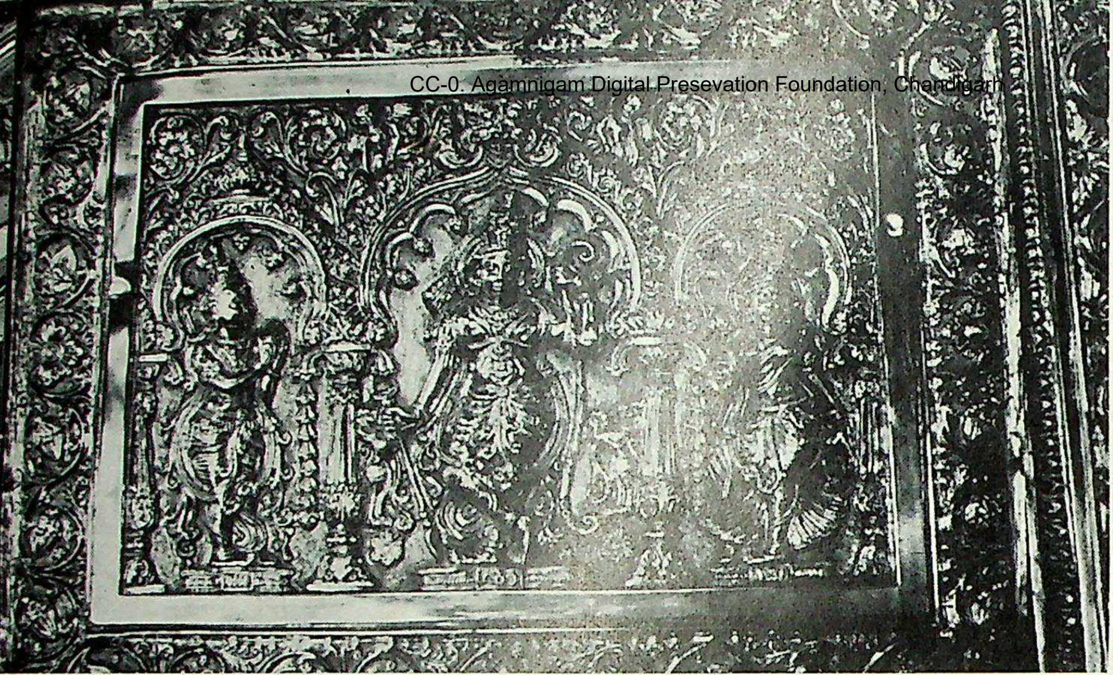


Plate 120 : The Mysore Palace — Silver door panel depicting Sita, Rama and Hanuman — Amba Vilas Private Durbar Hall.

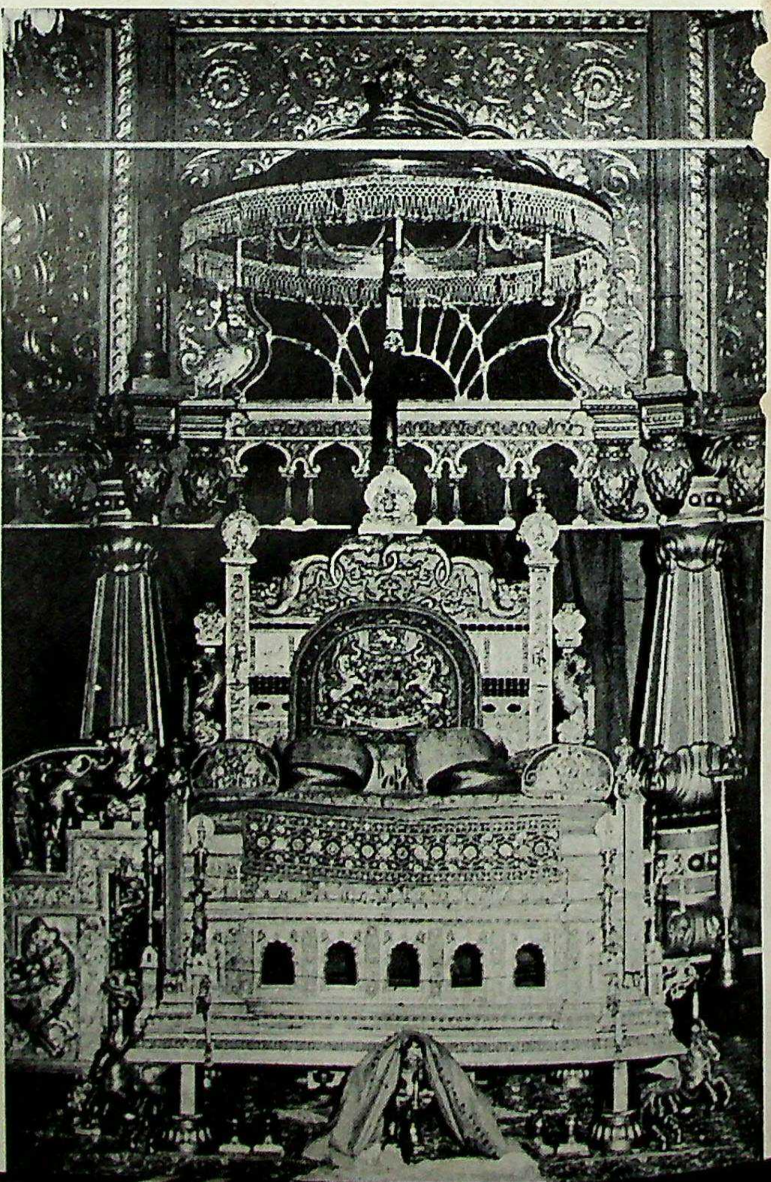


Plate 121 : The Mysore Palace — Ceremonial Golden Throne.

PART VIII

Dr. Grace Morley : Personal Glimpses

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DR. GRACE MORLEY : SOME PERSONAL GLIMPSES

KAPILA VATSYAYAN

An attempt to articulate one's admiration for a friend, guide and philosopher, can at best be inadequate. Dr. Grace Morley is no longer for me only the impersonal symbol of courage, tenacity, vision and meticulous precision whose reputation I had heard nearly three decades ago in the United States and Europe, but is also a gracious graceful human presence, full of mellowed ripeness, fresh and generous, wise and discerning.

In my first visit to the United States I recall vividly, altogether too vividly, as if it happened only yesterday, the visit to the Museum of Modern Art, San Francisco. An exhibition of the latest works of Matisse was on display. It sprawled over the spacious walls of the Museum and the grey and brilliant blues left a deep impression. Matisse's work with scissors, paper and gum, was much discussed, and naturally the curiosity and the excitement of confronting it first hand was great. The visit to the Museum was a memorable experience, both for the excellence of the artist and the manner of its display. It was also a great change from the many months and weeks of wandering around the British, the Victoria and Albert, the Metropolitan and the Detroit Museums.

The idea of space and light in a museum had never occured to me, until I entered the Museum in San Francisco. It was followed by an insatiatable hunger for visiting other museums of modern art in Europe, especially the Museum of Modern Art in Paris. I asked questions with many and in reply came only one answer in San Francisco. While the works of art were of Matisse, the Museum and its galleries were the work of one lady called Dr. Grace Morley. Known for her imagination and her exacting standards, she was extraordinary scholarly, meticulous but inaccessible and, in short, the prototype of the professionally competent woman, much admired and trifle dreaded.

While the impression was strong and lasting, in the intervening years it receded into the grooves of dormant memory. Many years elapsed, Moti Chandra had come and gone, others who had followed could not visualize a truly National Museum for India. An international search for a suitable director resulted in the fortituous circumstance of Dr. Morley's arriving in India after years of valuable work in the UNESCO, Paris, Mexico and elsewhere. One fine morning I met her and then the memories of the visit to the Museum of Modern Art in San Francisco and the reputation of the Director were reawakened. My mind was flooded afresh with that first deep impression. I had heard from friends she was unapproachable, aloof and an exacting task-master. As I now sat and heard her talk to a senior colleague, I wondered whether this was the same person. Here was a gentle, kind and gracious human being, who appeared generous but unsure of the nature of the task which lay before her in this strange bewildering land. Many doubts were raised, public and private. How would a foreigner, a specialist in Modern Art or Mexican Art, be able to guide the destinies of a museum of Indian ancient and medieval art ? Would she not be better suited to head the National Gallery of Modern Art ? These and many other rumblings continued in Delhi circles, until one by one each doubt and voice of scepticism was silenced and the National Museum acquired a character, a body and shape which is no small measure is the gift of Dr. Grace Morley to India. Years of arrears of accessions were cleared, photo index-cards introduced, cataloguing and documentation on scientific lines begun, conservation work launched and display galleries transformed beyond recognition in the course of two or three years. Gradually but surely the deft hand of a master mind was in evidence and admirers, friends and students increased in numbers.

Her international contacts with Paris, Mexico and Rome brought in specialists of all aspects of Museology. There was Plenderlieth from Rome, others from Paris, U.S.A. and Mexico. Her great ambition was to put India with its vast and valuable art treasures on the world map. Assiduously she has trained many younger colleagues, not only of the National Museum but from practically all other museums of India, in techniques of conservation, cataloguing, documentation and display. The fact that India today can be proud of a young generation of competent museologists is to a large extent, the result of the single handed initiative, drive and tenacity of Dr. Grace Morley. She has all along been as anxious to build institution as to foster the growth of human resources, each time identifying with uncanny discernment the specific potential and then presenting opportunities for both challenge and eventual recognition. It was clear soon that she was a museum person first and last and thus the specific area of ancient or modern art, ethnology or science, textiles or jewellery, was only a matter of responding to the particular needs rather than one of being a subject specialist in the field.

It was with this knowledge of having watched her in operation that emboldened me to requst her to present two exhibitions on the occasion of the XXVIth International Congress of Orientalists. One of them was particularly exacting. An exhibition of Indian Manuscripts for the august body of the oriental scholars from all parts of the world had to be presented. As the first ever held session of this conference, east of the Suez, this was a challenging organizational task. Dr. Morley helped and guided in every detail but most in the exhibition. The catalogue was a difficult matter. I watched her guide and direct its preparation and publication. Despite Dr. P. Benerjee's experience and competence, I believe that but for Dr. Morley's constant supervision, such a magnificent examplary catalogue could not have been published. She was both tireless and exacting and I remember clearly the manner in which she brought enthusiasm and hope at moments of great dejection and sense of hopelessness of achieving the targets.

It was soon after that I had my real intense orientation under her stewardship. The Teen Murti was to be converted into a Personalia Museum in a record time of six weeks. Dr. Morley was the specialist-guide, and it was in the course of these six weeks working, literally round the clock, that I learnt the intricacies of a personalia museum and the innumerable polyvalent skills required in the making of any museum. No formal student of hers, in the six weeks she transformed me into a pupil or may I say a disciple, and I have so remained. Her sense of detail, her anticipation of problems, her ability of chalking out plans was as impressive as it was educative, and above all her zeal and her friend-like energy and stamina which put all of us, years her juniors in age, to shame, utter shame. For this one experience and the training embibed, I am beholden.

Since then, there have been innumerable occasions, too many to be recounted where there has been opportunity to learn and to receive from her, both in the context of the National Museum and elsewhere. Throughout I have been staggered with her capacity of identifying herself wholly with an institution or a human being's welfare and striving in all possible ways to find solutions. This negative capability of identification with causes and institutions is given only to a selfless person and this Dr. Morley truly is. Understandably she has earned the appellation of *Mātājī* from many of her Indian sons and daughters.

But museums and museum problems and personnel are not her only passion. A discerning student of Western art and music, she is an avid reader and today most knowledgable in Indian art history, in all its ramifications. I have watched her respond to the beauties of Indian architecture, sculpture, painting, music and dance with the delight of a real connoisseur and initiated *rasika*. Kashmiri shawls was an old-love, and this the Indian experience revived and enlarged to textiles. She is perhaps the stoutest spokesman of the collections of the Bharat Kala Bhavan and Calico Museum. Her unimpeachable taste in texture, design and colour is in evidence in her choice of materials and fabrics both of furnishing and garment, both in the house and in the museum. It is extended to a connoisseurship of food and although a slight eater, she has a varied and rich gourmet cultivation. It may sound strange to mention this culinary accomplishment and sense of taste, but any discerning student of the Indian tradition knows that this is as vital and fundamental as the sense of mass, volume, line, colour, sound and movement.

For me, all this and her enthusiasm of the heritage of Southeast Asia (where I have had the opportunity to be her travelling companion) has been an enriching and enlightening experience. I remember the delight on her face watching the Rāmāyaṇa panels in Prambanan, Indonesia, and her enthusiastic and sensitive response to the arts of Bali. She has been responsible for guiding the destinies of the National Museum, Thailand and the conservation work at Pagan, Burma. Everywhere she has earned the reputation of a fairy benign's presence whose magic wand would find solutions. Of course she has found solutions, but unlike a fairy they have been the consequence of hard perserverance, tenacity and ceaseless effort for the cause of the preservation of the heritage of Southeast Asia and South Asia at all international forums. Her contributions in creating the channels of communication amongst professionals of the area is invaluable and will have long ranging effects in years to come.

Dr. Grace Morley has another accomplishment for which many Indian and Asian scholars are grateful to her. She is a meticulously thorough editor and has taken pains to persue the writing of many art-historians. For me, this has been a special education and cause for gratitute. Her keen perceiving eye identifies every turn of phrase, each punctuation mark, and proof-reading errors. While she is always able to retain the flavour of the original style, she is exacting in her standards. For this and her many constructive suggestions for all those who write about Asian art in English, she is an invaluable help. Besides, with her characteristic generosity she is always carrying research material and documentation from one continent to the other. Many scholars all over the world are indebted to her for this.

Above all, she is the human being, generous and gracious, who has identified herself with the complexities of this large continent with its plural cultures, feels intensely and sincerely for the future of the nation, its material of the human wealth. One may not be a believer in rebirth but in Dr. Morley's case the only explanation can be that perhaps in some previous birth she belonged to this part of the world. Spiritually and emotionally she is Indian and Asian in a manner which can have little rational explanation. She is and will so remain in the minds of many. It is no accident that she has chosen to make this land her home beyond the call of her vocation.

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DR. (Mrs.) GRACE L. McCANN MORLEY AS I KNOW HER

C. SIVARAMAMURTI

Dr. Grace Morley is a gracious lady with special equipment to adore the Graces. All her life she has worshipped the abode of the Muses. It has been a special good fortune of India to welcome her as the first Director of the National Museum in 1960. She had earlier done immense good to several great institutions all over the world. In fact she is not confined to any country or region. Though an American by birth, she is a citizen of the world. Born at Berkeley in the State of California, U.S.A., and educated in the local university, she has, by her prodigious knowledge of museums and museology, made herself felt in every part of the world. It is a token of recognition of her infinite knowledge of museums and the museum science that she was invited to be the Head of the Museums Division of the UNESCO in Paris. This meant calling her away from the Directorship of the San Francisco Museum of Art in California, which was indeed a sacrifice on her part, as she was doing her utmost to the museum of her own place in the true spirit of the lines of the poet "breathes there the man with soul so dead, who never to himself hath said, this is my own, my native land". But for Dr. Morley there is no place on earth that she has not identified herself with. She has been at home in every part of the globe.

In the National Museum she used to be always referred to as 'Mother'. She was the mother not only to nourish the institution she built up so well, but she also built up her younger colleagues to be worthy of a great profession which has not been attractive enough to encourage a larger number to take to it. The advantages of service in the museum may not be commensurate with the responsibility and the prodigious learning expected of those who are most devoted to the profession. But indeed with the advent of a new era with the arrival of Dr. Morley in India, light radiated from the National Museum to attract a large number of younger intellectuals to flock to the Temple of the Muses, wherever it had the scope to grow, in this large country that would yet have to take long strides to cover the vast area, with a definitely multiplied number of museums. The old idea of museums in India, not unlike the early notion all over the world, was a collection of curios and even of freaks sometimes for a natural history section. There have been multi-purpose museums in India, but which could be counted on one's fingers. Certainly there were not several specialised museums of particular aspects of life, science and culture. But fortunately today we are having so many more categories of museums coming up rapidly. Dr. Morley has made it possible for the great culture and civilization of India, of which the country should be very proud, nay the world itself as part of it, properly understood and even enthusiastically appreciated by scholars, students and masses alike pouring into the institution to feast their eyes on what is called *āsechanaka* in Sanskrit meaning that by gazing over so long there is no satiation. The presentation of the rich material of the National Museum, which is justly proud of its collections, very rich and distinctive, has had its galleries made up in such a way that the objects have a telling and educational effect on the visitors. The standard of display in the National Museum has made it a model for every museum to emulate the example set. Happily now several museums in India have improved their mode of display and presentation in the light of a new experience radiating from the National Museum.

Dr. Morley is fully aware that an institution can grow only when built up by the individuals. These in their turn should possess the equipment, be devoted and serve the cause of their profession by giving their all to the institution. They should assiduously acquire this and in turn give their all from and to the entire world of museologists. It is not very easy for so many from different parts of the world to come together and exchange ideas, and besides ideas exchange visual experiences. This was made possible in a wonderful way by Dr. Morley. She has been able to swirl into the nooks and corners of different countries all over the world ever so many of the younger generation of museologists from India that today if so much of what the rich museums all over the world possess as their treasures, their strength or weakness, the very functioning of those museums, and the possibility of mutual relationship and help in building up collections by exchange of material is possible, it is all because of her understanding and worthy action.

If there is one who is indefatigable, it is Dr. Morley. She has no special working hours, she would be at work as the hours fly. There may be those who are aware of definite hours of work during the day, but she knows no such. She always tries to finish the museum work whether it is evening or later encroaching on night. She has her distinctive method, not different from the dictum of the *Mahābhārata*, which counsels tomorrow's work to be done today and that of the afternoon, if possible, to be accomplished in the forenoon itself: *Śvah kāryam adya kurvīta pūrvātine chāparāhnikam.* I was indeed amused to see that sometimes she posted her letters by herself personally proceeding to the post office for the purpose. I once asked her why she took on herself such trivial things which should be done by the office. Quick came her reply that there would be someone waiting somewhere or the other in some part of the world, and if this message to help him or her in something requiring her help did not reach in time, it would indeed be a tragedy. It was to make sure that what she took up to do was accomplished without the cloud of a doubt. Her sincerity of effort to promote knowledge and devoted work in the field of museology through colleagues, not necessarily of her own institution but from all over the country, is indeed remarkable. As I had already stated, she has indeed always shown a natural anxiety for the good and welfare of every one in the museum and there is hardly anyone who has not had a taste of her magnanimity and kind disposition. Her advice has always been available for all the museums of different categories all over the country, and she would spare no pains to help any institution from her vast knowledge of museum problems and experience. The National Museum has ever to be thankful to Dr. M.S. Randhawa for instituting years ago the tradition of only selective printers being sought to print its books to assure a distinctive quality in production, as museum publications are usually poor in quality, however good the material discussed, but that was then in its infancy when the books produced were less. It was Dr. Morley who multiplied and enriched this activity of the museum as well by making it possible to bring out regularly numerous publications of fine quality and context.

Apart from her administrative work, her personal visits to the galleries every day a number of times, she could always receive and advise so many that came to see her on various aspects of museums and museum material. She was moreover found constantly on the move in different parts of India to impart her knowledge as and when it was sought anywhere in any museum. She was, even after her retirement from the National Museum, the Adviser on Museums, as her valuable suggestions on many problems were essential for the good of the country. The International Council of Museums that had been aware of the vast area and the consequent problems in the continent decided on a Regional Agency in Asia with Dr. Morley as its Head, as with the special knowledge she could serve this best. She graciously located her headquarters in India, and in the country's capital to be of the utmost service to the museums in the country she loves so much, as well as to all the neighbouring countries and South East Asia. She has constantly been to almost every country of South and East Asia to help them to build up their museums, to solve their problems and to make them efficient and worthy members of this international organisation, where all the colleagues from museums from all over the world have always held her in the highest esteem for the work she has done, is doing and as they know she would ever be doing. Naturally she is requested still to continue to give the benefit of her knowledge and experience as Adviser on museum affairs for the Regional Agency for Asia. Awards have run after her like the meaning of the utterences of a sage that would run to attach itself to it as a poet outs it : *rishiṇām punar adyānām vācham arthonudhārati.*

Yet, with all this, Dr. Morley, so simple, so easy, so affectionate, so knowledgeable and so sweet, has always stuck me as a monument of a model for any profession. The profession on museology is indeed fortunate to own her as its own. Having worked with her so very closely, and having had earlier the great good fortune to get selected to enter the profession and get trained in the field of museology by such distinguished giants like Dr. Gravely and Sir Mortimer Wheeler. I have always felt that this great and noble lady, so eminent in her field as the final one to guide me in my life, is the crowning piece of a noble edifice, the edifice of devotion to the work and the cause of museums. Dr. Morley will ever be remembered with the utmost spirit of gratitude by India for all that she has done to enrich the knowledge of Indian culture and art through the museums.

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DR. GRACE MORLEY AS THE DIRECTOR OF THE NATIONAL MUSEUM, NEW DELHI (1960-1966)

P. BANERJEE

Dr. Grace Morley is the first Director of the National Museum, New Delhi. She joined the Museum on the 8th of August, 1960 and continued to hold its charge for six more years. Her regime was a glorious one and saw an all round development of the Museum. Under her loving care and able leadership the Museum acquired international recognition as one of the most important institutions of its kind not only in India but also in Asia. Because of her persistent efforts and forethought the Museum Movement in India gained in strength and fillip and the museums in India came to be recognised not only as the abodes of the cultural objects and research but also as disseminators of knowledge. I received much insight and experience in regard to the museum display and administration under her guidance and supervision.

When Dr. Morley joined the National Museum I was the Assistant Superintendent (Headquarters), Archaeological Survey of India, New Delhi, and in the compound of the Archaeological Survey were then exhibited in the open a large number of sculptures purchased from the late Shri S.T. Srinivasa Gopalachari (as the present National Museum building was still not completed to provide a storage space for them). Dr. Morley came to India a few days earlier than she joined the Museum. She utilised these days to study these sculptures (as I could notice from my then office-room overlooking the compound containing the sculptures). The duration and attention with which she saw these sculptures convinced me of her great interest in and connoisseurship of art. I did not know her at that time but could easily understand that she was not an ordinary visitor.

As it happened, I also joined the National Museum as Keeper (Publications) a month later and had the good fortune of working under her direct supervision for almost six long years. When she joined the National Museum, she was about sixty years of age, but she was full of energy and vigour. She worked almost every day ten to twelve hours without showing any sign of fatigue. Inspired by her example I also practised the habit of working over a longer duration even after the office hours. I was then, however, only forty years of age, about twenty years younger than she was. The main causes of her success are her great academic distinctions, rich and varied technical expertise and, above all, her dedication to the cause of museum developments. In keeping with the modern museum concepts she shaped the National Museum as a centre of education. On her arrival in India she understood that the learning here was mostly bookish and the museums should make all efforts to provide the visual education to help an all round development of the personality.

No aspect of museum work escaped her notice. During the first one or two months of her career here she devoted also a lot of time to acquaint herself with the working of the office and she went through all the old files to help her devise the necessary means of improvement in administration so that the technical staff could get quick help from the office to carry out their plans successfully. In short, she ensured the smooth functioning of the two wings of the Museum, *viz.*, the technical and the administrative.

When she joined the National Museum most of the objects were in the Durbar Hall of the Rashtrapati Bhavan and there were hardly any galleries installed in its new building at Janpath. But she gave the Indian Government an assurance that the Museum would be opened to the public during the month of December, *i.e.*, within four months after her joining the Museum. It appeared almost an impossible task. But with her hard work and with the co-operation and enthusiasm of the staff of the Museum she accomplished it with a wonderful success. The Museum was opened on the 18th of December, 1960 with most of the art and archaeological galleries beautifully set up. The exhibition was a model of precision, combining historical considerations and aesthetic taste. Of the triple functions of the museum, namely the collection, the preservation and the display she rightly emhasised the importance of the exhibition as it provided the best link between the museum and the public. Her exhibitions provided a beautiful harmony between the contents and their style. Further, all the exhibits were provided with brief but suitable captions and also big descriptive labels, charts and diagrams to help the visitors to understand the significance of the objects exhibited. She emphasised the cleanliness of the museum premises and the galleries. She believed that a hospital and a museum should look like a mirror as they are important public institutions. Her attention was equally bestowed on public amenities. A museum is to attract the visitors. If it is not neat and clean, it is not only bad for the objects, but the visitors would also not feel attracted to come to it.

She placed the publication department under the Directorate so that it could function smoothly. The publications are a mouthpiece of a museum, a reminder of the people's visit to a museum. So she insisted on that the printing of the National Museum publications should compare favourably with that of the publications of the American and European museums. This standard was achieved as is evident from a series of publications brought during her regime. It is gratifying to note that the successive Directors of the Museum were also attentive to the high standard of the Museum publications. In regard to the publication work I received her help all the time. I recall with pride that she was prepared to go through the proofs of the publications at any time they were submitted to her. I myself used to take a good deal of care in editing and proofreading. Still her final touches improved the quality of the publications tremendously. She was very patient in going through the proofs and always insisted that the final proof of a book should be shown to her as far as possible. I remember that on several occasions I took the final proofs of our professional publications to her residence at about 3 O' Clock at night, and she was glad to go through them at that unearthly hour (Some of our publications were printed at night and I was deputed to supervise the printing at the press. But before I gave a final print order, I showed the proof to her). I still vividly remember the long hours we spent in working on our publications.

Dr. Morley was always alert and vigilant. She adopted all the security measures for the safety of the museum objects. She used to inspect the galleries several times a day and I had very often the privilege of occompanying her to the galleries during her daily rounds. She told me that a museum officer should have a photographic memory. He should be able to notice quickly if anything wrong had happened to the gallery and if so, the matter should be set right as early as possible. She used to very often say that 'there is no perfection in Museum working' and one should go on perfecting it (one should not rest content with one's past achievement, but should go on trying one's methods and improving upon them).

When she left office (very often quite late in the evening) she checked if the doors of the exhibition galleries were properly locked and she asked me to follow this practice. One night at about nine O' clock, while we were leaving the office, we went to check the locks of some of the doors and heard the sound of a human voice inside a gallery. On opening the gallery we found a person locked inside. On interrogation he divulged that he was a CPWD worker and he felt asleep in the room containing the switch box. While the doors were closed nobody noticed him and when he awoke he found himself locked inside. Whatever it may be, our inspection saved him and he could come out and go home.

The conservation of the Museum objects received her highest attention. She emphasised that it has a two fold significance : firstly it slows down their deteriorating processes and helps them to remain in good condition for a long time, secondly it assures that before an object is set up in a gallery, it is free from any disease or infection and its presence in the gallery will not affect other objects.

She arranged for a visist of two very distinguished UNESCO experts, namely Dr. Plenderleith and the late Dr. Paul Coremans to India who submitted important recommendations for the improvement of the National Museum conservation laboratory. They suggested that this laboratory should be canverted into a Central

Conservation Laboratory to look after the conservation needs not only of the National Museum but also of the other museums in the country. This was an important step as most of the museums in our country then had no conservation facilities. Through the initiative of Dr. Morley the Museum could secure a number of sophisticated instruments under the U.N.D.P. and UNESCO programmes. In order to provide necessary expertise for the work she sent many of our museum scientists to receive higher training in the main conservation Centres of Europe, such as Rome, Belgium, etc. As a result of such efforts and far-sighted policies the National Museum laboratory became the finest institution of its kind in India.

Dr. Morley was well aware of the need of developing the talent and expertise of the Museum staff. With that end in view she arranged the Weekly Lectures and discussion groups on various subjects, including security. So that the Museum can develop as a Centre of education she paid a great attention to the development of educational activities. She encouraged film programmes on archaeological sites and monuments and other subjects of museum interest, school visit with proper preparation and follow ups afterwards in the classroom, lecturers, discussions with teachers on museum's use to spread the knowledge of Indian art and culture among the students and school teachers.

She was instrumental in arranging an international UNESCO Museums Seminar in the National Museum in which distinguished Indian and foreign experts took part. They discussed various educational and other museum programmes and problems as prevalent in India. It was through Dr. Morley's special efforts that a number of young members of the National Museum staff could visit abroad for training in Museology. Her attention was not confined only to the needs and problems of the National Museum, but she took a keen interest in the development of other museums also. She arranged for the foreign visits also of the Directors and Curators of many other museums so that regional leaderships in museum field also could grow. The Museum Camps arranged in various parts of our country, under her leadership, gave ample opportunities to our young officers to develop comradeship in the museum profession and learn from each other. The In-service training in Museology arranged in the National Museum gave training by turns to a lot of Museum officers from the other centres to learn modern museum methods for the efficient running of the museums.

Dr. Morley even now has the best interest of museums at heart. She was an indefatigable worker. She did not rest contented in issuing orders, but personally persued every problem. She worked along with the Curators and the Technical Assistants in the galleries to teach them how to handle the objects, how to look after them and how to explain them to the public for educational purposes.

Running a Museum is just like house-keeping. Everything should be well accounted for, and kept neat and clean and in order, so that the prosperity of the family can grow. Similarly the museum objects should be properly conserved accessioned, displayed and interpreted so that the scholars and the general public can gain knowledge from museum visits. With this end in view she did not remain satisfied with arranging the public exhibitions only, but took care to devise means and methods for the safe storage of the reserve collections, also for their proper use by the Museum staff and outside scholars. To avoid confusion and clear up backlogs in work she took timely steps for the physical verification of the objects and was insistent on careful movement of objects for display, cleaning and other purposes. Hard and intelligent work in an orderly fashion was what she did and wanted others to do.

Her achievements are many. I could recount only a few of them. She never talked of her achievements, but we who worked with her know what they are. The National Museum in its working still reflects her image. Her successors took delight in pursuing her policies and measures for the welfare of our museums.

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DR. GRACE MORLEY : POST-NATIONAL MUSEUM PERIOD (1966-1979)

EDITORS

Sri Sivaramamurti, Chairman of the Indian National Committee for ICOM, in attandance at the Annual Meeting of the Executive Board, Paris (July, 1966), requested Mr. Hugues de Varine-Bohan, Director of ICOM, and the Board members present, to consider establishing some form of regional representation to strengthen ties between Paris headquarters and the Asian countries, suggesting New Delhi as suitable and pledging every possible assistance from the National Committee. He cited the substantial attendance of ICOM members from India at the last two General Conferences (the Natherlands, 1962; New York, 1065) and his own participation and that of Indian colleagues in UNESCO and ICOM meetings as evidence of interest and support. The request was approved. Dr. Grace Morley, who earlier in the year had completed her term of service at the National Museum, was asked to organize the New Delhi office (to become the '*ICOM Regional Agency in Asia*') and to launch a programme of increasing cooperation with Asian National Committees, of preparation for formation of additional National Committees, and become thoroughly informed and to keep Paris headquarters informed and in close touch with its Asian membership, even when National Committees did not exist or if existed, were not very active.

By October 1967, formalities had been completed; ICOM had secured a grant for the Agency and the programme of surveying museums and museum conditions in the region began. By 1969 the offices in Sapru House Annexe, rent subsidized by the Indian Government after 1971, were occupied. The systematic survey of museum and consultations with museum leaders of the Asian countries, was reported to the ICOM General Conference on *Museums in South, South-East and East Asia, Survey and Report, 1971*. By that date National Committees had long functioned in Ceylon (now Śhri Lanka), India, Iran, Japan, Pakistan, the Philippines and Thailand. Recently National Committees have been organized in Indonesia, Korea, Malaysia and Nepal; most other Asian countries had been visited; in many there were individual and institutional members.

A firm basis of knowledge of museum workers, their museums and the conditions in which they operated was established, founded on study of the countries, their history and cultures, their archaeology and arts, their societies and the inerests, scholarly, educational and casual, their public at all levels and of all ages provided. The value of science/technology museums was noted.

Appropriate meetings to advance museum professional/technical proficiency were organized in cooperation with National Committees or for specific purposes, in support of UNESCO in some cases, in relation to ICOM's broad aims. They resulted in modest publications to extend the benefits of consultations and meetings as widely as possible, especially in the Asian museum community.

One major result has been the wide acquaintance among Asian museum professionals of many countries, who, on meeting share experiences, exchange information and know from personal contact that they are part of the international museum community and have a contribution to make to it, influential for beyond the region.

The office of the Regional Agency, profoundly committed to the Asian countries and their interests, continuously concerned with their projects and prospects, was transmitted by Dr. Grace Morley to a successor on October 1, 1978. She had agreed to maintain liaison with it as Advisor, whenever called upon, but far beyond the official obligations, continue both personal and professional friendships with Asian colleagues, whose work and achievements represents intimate satisfaction. In other words, she remains on call to be useful as required in the museum field. For example :

April 1979—Introduction to museology course for the Lahore Museum—with a reference 'Manual on Museum Techniquas' to result.

She continues to be member of various organizations in India concerned with museum affairs—Chairmanship : Museum Committee, Crafts Museum; Bharat Kala Bhavan Samiti; Governing Board, Calico Museum of Textiles, Ahmedabad; Board of Studies, Museology Department, M.S. University Baroda, etc.

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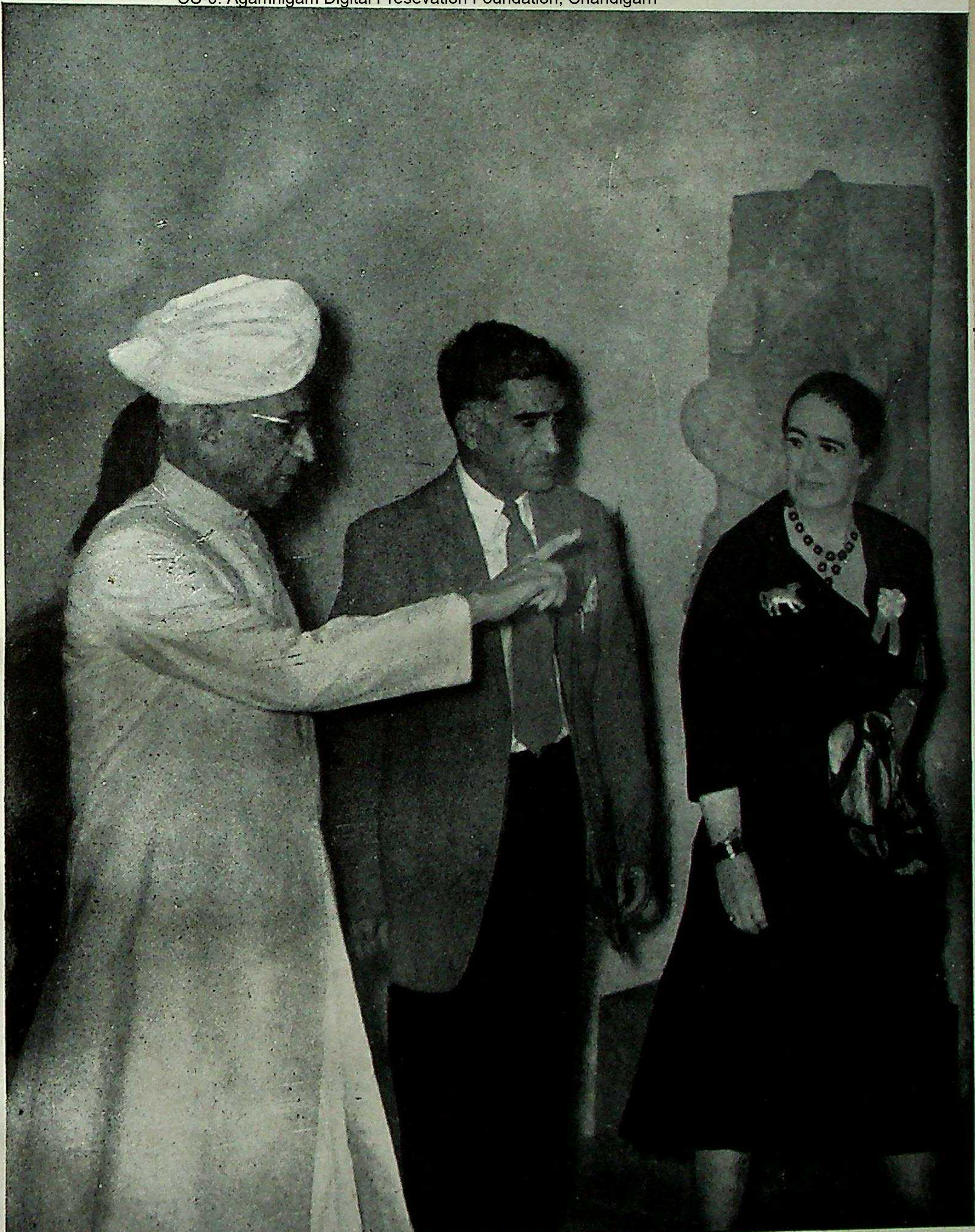

Plate 122 : Dr. Morley, accompanied by Dr. K. N. Puri, Asstt. Director, taking round Dr. S. Radhakrishnan, Vice-President of India, on the inaugural day of the Museum; 18th, Dec., 1960.

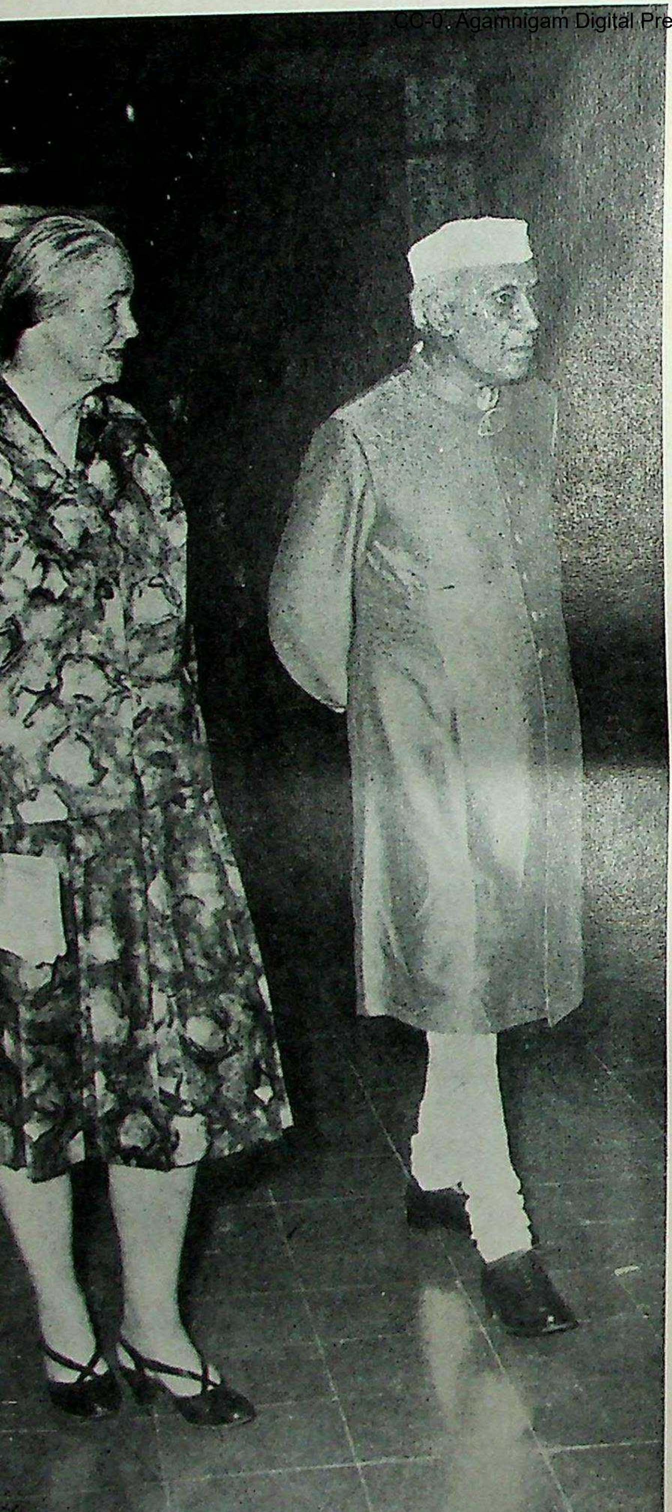

Plate 123 : Dr. Morley taking Pt. Jawaharlal Nehru, Prime-Minister of India, round the Museum galleries, 1962.

Plate 124 : Dr. Morley, accompanied by Sri C. Sivaramamurti, Asstt. Director and others discussing documentary film shooting schedule with Pt. Jawaharlal Nehru, 1962.

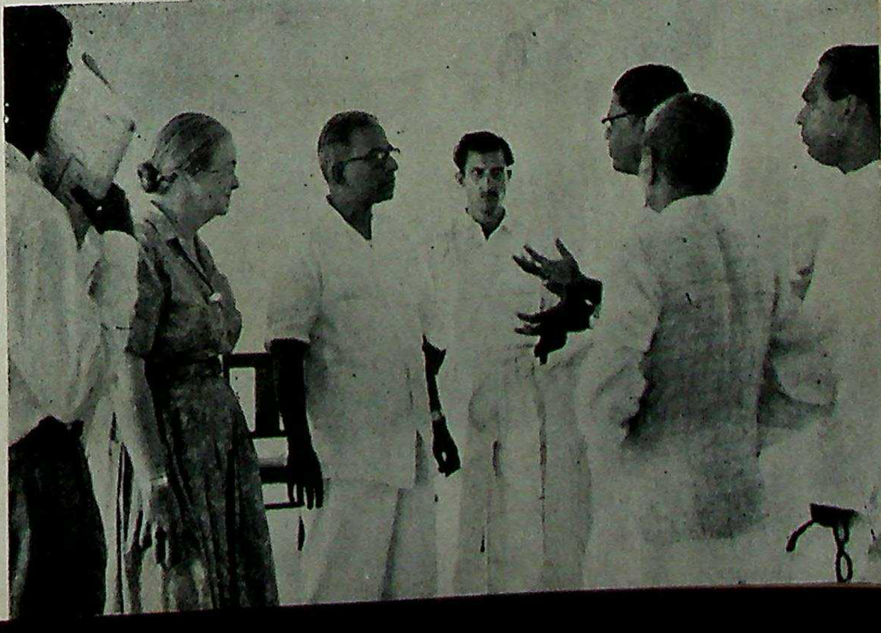

Plate 125 : Dr. Morley discussing 'Sculptures in Indian museums' with museum colleques at First Museum Camp at Madras, 1963.

Plate 126 : Dr. Morley with her favourite Nataraja at the National Museum, New Delhi, 1979.

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